

TECHNOLOGY

REVIEW

April 1954



technology review

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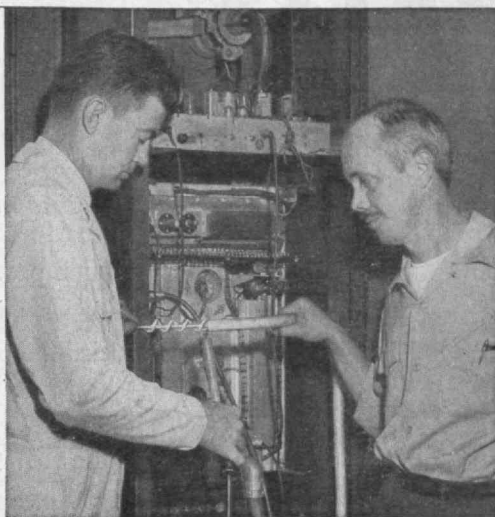
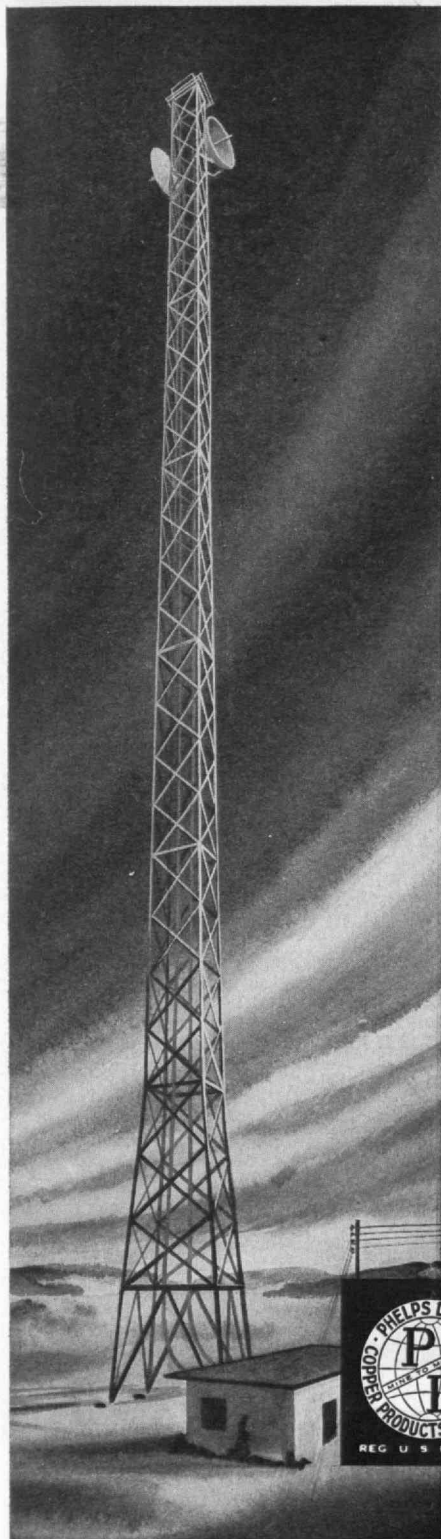
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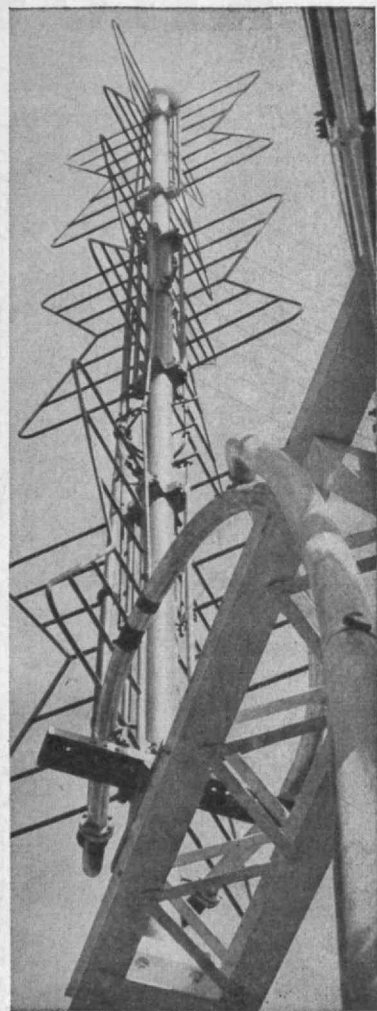
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Mobile Pickup



Community Antenna



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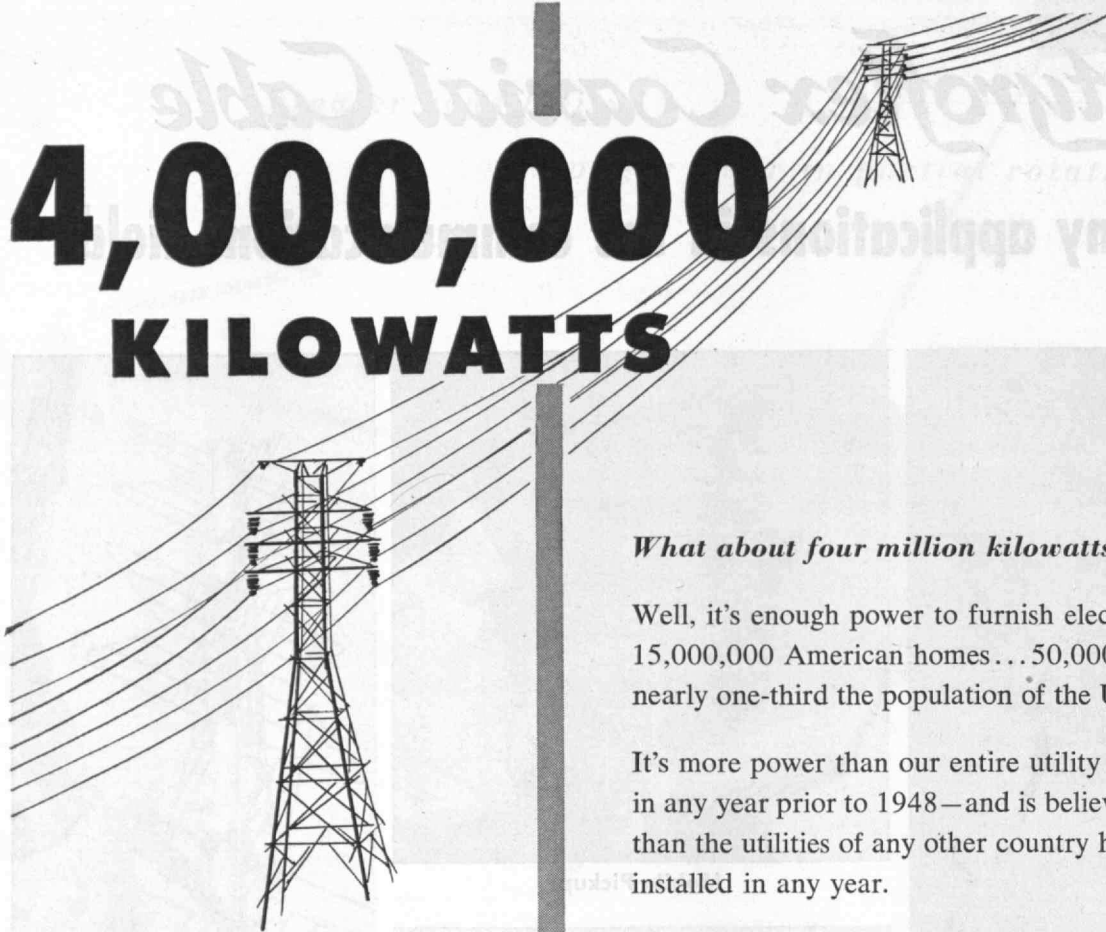
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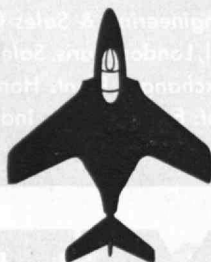
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THE TABULAR VIEW

Radio Pioneer. — Probably no man has made more significant contributions to progress in radio communication than Major Edwin H. Armstrong whose discovery of regeneration (1914), the superheterodyne receiver (1918), super-regeneration (1922), and noise-free, frequency-modulation transmission (1936) has truly revolutionized "wireless." Certainly no man was a more determined example of rugged individualism than this radio pioneer whose brilliant and controversial career came to an abrupt end on January 31. EDWARD L. BOWLES, '22, for many years Professor of Electrical Communications and now Consulting Professor of Industrial Management at M.I.T., was personally well acquainted with "the Major" for several decades, and records his tribute to a former friend (page 292). As published in this issue of *The Review*, Dr. Bowles's address was originally broadcast over Station WGBH, the frequency modulation station of the Lowell Institute Co-operative Broadcasting Council. Professor Bowles's broadcast was not only transmitted via the system of frequency-modulation which the Major had devised, but was sent on its way by means of a transmitter which Armstrong had built and donated to educational activities in this area.

Atmospheric Pollution. — By pouring soot, smoke, fumes, and other gases into the fresh air which we breathe, man has made a major contribution to atmospheric pollution. Although the extent of such pollution tends to increase as society becomes more completely industrialized, it is possible to take steps to keep foreign substances under control. Such measures are discussed (page 294) by HAROLD BAVLEY, engineer for the Division of Occupational Hygiene, Massachusetts Department of Labor and Industries. Since 1935, when he received the B.S. degree in chemical engineering from Northeastern University, Mr. Bavley has worked in the field of industrial hygiene and safety. Since 1946 he has been in charge of engineering activities of the Massachusetts Division of Occupational Hygiene. He is a registered professional engineer, and has contributed numerous articles to the literature, including one on Ionizing Radiation which appeared in the June, 1953, *Review*.

Technology's Architecture. — Throughout its eight and one-half decades of education in architecture, science, and engineering, the Institute has had three different homes. The original one in the Mercantile Library Building on Summer Street in Boston saw the birth of M.I.T. and served it but a few years. The home on Boylston Street witnessed the growth of the Institute through its adolescent era, and the Institute has grown to vigorous manhood since moving to its site in Cambridge. In each of its three locations, M.I.T. buildings were marked by different, and characteristic, architecture. The story of Technology's architecture is traced from the beginning in 1865 to the present time in a two-part article, of which Part I (Concluded on page 286)



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THE TABULAR VIEW

(Concluded from page 284)

begins on page 297. In the first installment, the author, CAROLINE SHILLABER, recalls the splendor of an earlier day, and emphasizes architectural progress in Technology buildings up to 1938, when the Institute entered upon a new era of construction. Miss Shillaber is a graduate of Smith College. She has been assistant librarian in the Library of Landscape Architecture and City Planning at Harvard University. Not long ago, however, Miss Shillaber became librarian of the Arthur Rotch Memorial Library of Architecture at M.I.T. from which vantage point she has documented Technology's architecture. She has contributed articles to *Speculum*, *A Journal of Mediaeval Studies*, and is a member of the Society of Architectural Historians. Part II of this documentary article, dealing with the vast changes which have occurred since 1938, will appear in the May issue of *The Review*.

Tornado Tragedy.—Less than a week before Alumni Day, 1953, central Massachusetts was suddenly struck by a vicious tornado that wrought havoc over a 40-mile strip, and brought death, desolation, destruction, and demoralization to hundreds of innocent victims. Always ready to help those distressed by emergency, Americans responded in providing temporary shelter and in rehabilitating the stricken region. Today, less than a year later, the scars are healed and a story of magnificent co-operation is revealed (page 303) by WALTER C. VOSS, '32. Joining the M.I.T. Faculty in 1928, he became head of the Department of Building Engineering and Construction in 1940, and served in that position until his retirement in 1953. This post fitted him admirably for the responsibility of serving as consultant to the Worcester Housing Authority which assumed major responsibility for the program of rehabilitation. To a long and distinguished career in the field of building construction, Professor Voss adds new laurels by serving the Institute this year as special lecturer.



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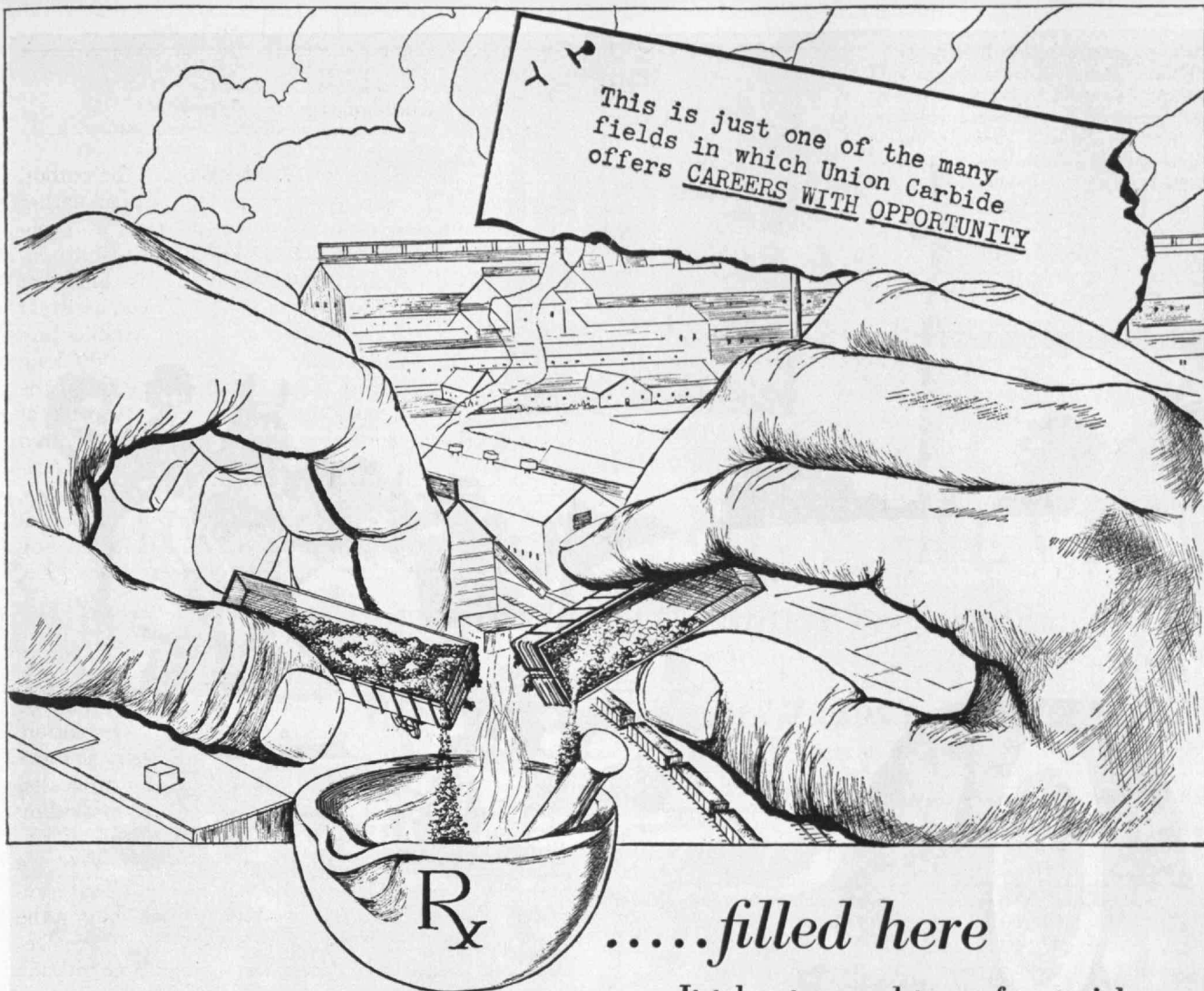
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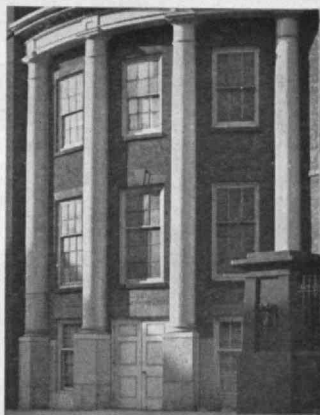
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GOODYEAR

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Statue of Leif Ericson (March Contents page) has been erected in Boston on Commonwealth Avenue, at Charlesgate East, near Kenmore Square. The statue by Anne Whitney is about three quarters of a mile from M.I.T. and overlooks the Back Bay Fens.



Raymond E. Hanson

How Well Do You Know Boston?
This exquisite architectural detail from an earlier period of Boston's history has probably been passed by every Technology Alumnus. Can you identify, and locate, this well-displayed doorway? If not, see Contents page for next month.

THE TECHNOLOGY REVIEW

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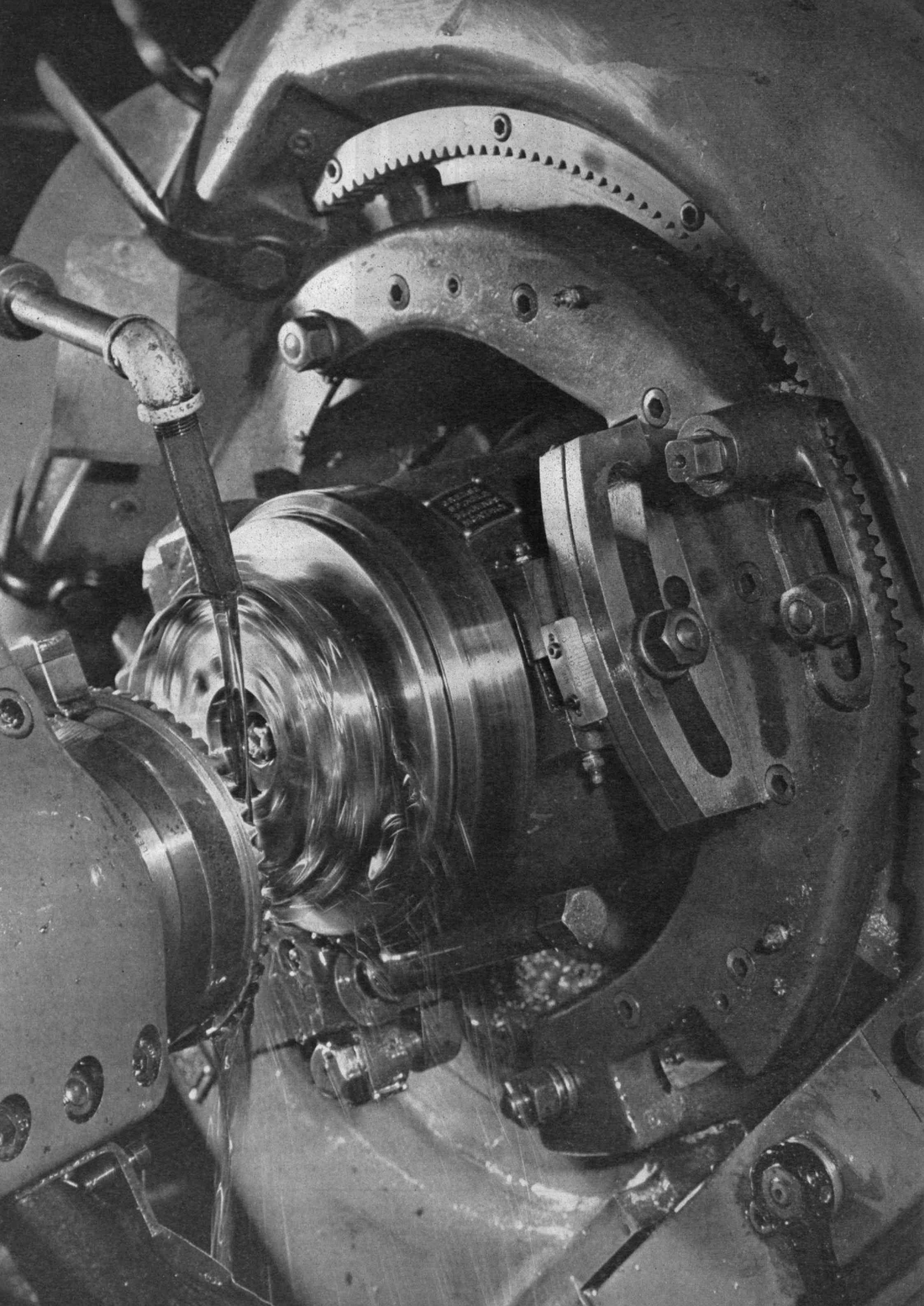
EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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THE TECHNOLOGY REVIEW



Vol. 56, No. 6

April, 1954

The Trend of Affairs

TV Counts Blood Cells

THE television camera has been turned into the eye of a simple and ingenious computer to count microscopic particles such as blood cells, bacterial cultures, or grains of photographic emulsion. The system, known in its laboratory stage as the Sanguinometer, was developed by a team of electronics engineers at the David Sarnoff Research Center of the Radio Corporation of America in Princeton, N.J., working in close co-operation with the Sloan-Kettering Institute, research unit of the Memorial Center for Cancer and Allied Diseases, in New York.

The equipment was devised to provide a simple, rapid, and accurate mass method of taking blood counts to detect the first signs of radiation sickness among persons in the target area of an atomic bomb. A blood count is an important indicator in many diseases and in those circumstances where anemia may be a complication, such as overexposure to radiation which may occur during atomic attacks.

In addition to this possible emergency use, its application is foreseen in hospitals and research centers to perform almost instantaneously and with a minimum of error a process that has long been a laborious and often unprecise manual operation.

The Sanguinometer is essentially a closed-circuit industrial television system combined with an optical microscope and a novel computer that has the ability to make a count of particles in a given field by means of a unique electronic circuit. The television camera, substituting for the eye of the observer at the eyepiece of the microscope, feeds the information it "sees" to both the computer and a monitor viewing screen, used in the developmental version to help in focusing and illuminating the microscopic specimen.

In operation, the camera tube of the Sanguinometer, scanning the specimen under the microscope, sends out video pulses as the scanning beam strikes the images of the particles to be counted, and the pulses in turn actuate an electronic counter. As in all television processes, the beam scans its field of vision from side to side, progressing downward in a series of parallel lines. The lines are so close together that in a normal microscopic magnification each particle to be counted interrupts several lines as the scanning beam moves across the field, and consequently produces several pulses in the output of the television system. Normally large particles will interrupt more lines and produce more pulses individually than will small ones, and the counter would be unable to distinguish between a large number of small particles or a small number of large ones.

This obstacle was overcome by an ingenious diameter compensation circuit that is able to determine the average size of the particles by taking account of a direct relationship between the average time duration of the pulses and the diameter of the particles. This indicates the number of video pulses created by each particle, a figure electronically fed to the counter where it divides the total number of pulses to give an automatic reading of the actual number of particles.

The entire process, as performed by the latest laboratory model is both simple and far more rapid than any manual count. Once the slide is prepared and put under the microscope, the operator manipulates a single control knob on the counting meter until an electric eye tube on the meter case is closed. With compensation for the average diameter of the particles, the operator reads the meter to determine blood count.

During laboratory tests employing microscopic blood specimens, an operator with the Sanguinometer was able to make several counts of red cells in various regions of the specimen and to average the results before a technician operating without the equipment could complete a single count.

Cutting Machine

A study in modern metal processing, by David W. Corson from A. Devaney, Inc. N.Y.

Major Edwin H. Armstrong*

By Edward L. Bowles

I HAVE been asked to broadcast in memory of Major Armstrong. I was reluctant. I could not recoil from the great shock of his sudden death. Major Armstrong was a close friend and one with whom I have been privileged to work professionally. I had followed his career for years. I had come to regard him as one of the greatest creative minds the field of electrical communications has ever known.

Major Armstrong was a humble man who enjoyed a humble beginning. The outstanding feature of his boyhood home in Yonkers was his attic room. He was a radio amateur—a member of that considerable global fraternity which by its experimentation in informal radio-communication, through code and voice, has contributed much, not simply to technology but to good fellowship and mutual understanding.

When yet a student at Columbia, Armstrong discovered what is known as the regenerative circuit—the vacuum tube oscillator—now a commonplace in all radio transmitters and in receivers. This device literally revolutionized radio communication. During World War I, as an officer in the Signal Corps, he made many original contributions, the most outstanding of which was the superheterodyne circuit. Today no radio receiver would be complete without this device. There followed the super-regenerative receiver—a discovery based on a phenomenon Armstrong observed in his Columbia Laboratory before the war, the explanation of which had occupied his mind during the intervening period. One of the all-time great contributions, and one perhaps better known by the public, is his contribution of modern FM radio. This invention is predicated on a concept which had been held alien among our most noted communications authorities and proved impossible by at least one of the world's leading mathematical minds. Here was Armstrong at his best, as a man of great faith, faith that the application of one's talents can surmount man's pre-disposition to resist progress and fall victim to dogma. To prove his point to a skeptical world, this man had finally to erect his own transmitter: the tower at Alpine, N.J., today stands as a symbol of his determination and his faith.

The application of FM communication to the needs of our armed forces and its use in the landing operations of the Marines demonstrated the outstanding superiority of this form of communications in tactical military operations.

Each of Armstrong's contributions was of a profound epochal character. How few men there are in any professional field who can match his persistent, systematic method and quality of discovery. Despite the fullness of his life of invention, so important were his contributions that he was never free from the plague and harassment of patent litigation. He was, however, never deflected from his research, nor was he deflected from an interest in humanity at large

and in what radio could contribute to its enjoyment, enlightenment, and well-being.

The very station over which this tragic message is being broadcast owes much to Major Armstrong's generosity. He donated the transmitter at Great Blue Hill.

In the current evolution of business, homage is paid to the concept of organized research. This type of activity is often thought of as the modern substitute for old-time individual entrepreneurial effort. The imposing list of brilliant, inventive achievements of Armstrong, made on his own and without the benefit of vast staffs and massive facilities, confirms one's faith in the enduring place of the individual creative genius.

It is not often that man is gifted so far beyond the ordinary that he is destined to be immortalized by his own achievements. What can be nobler than a life's work which gives constant inspiration to others as it unfolds mysteries and by its own hands opens them as things understood and things significant.

How can one ask more of a man than that he shall be of great integrity, fighting for that in which he honestly believes, and fighting relentlessly when it is to establish a principle which has been violated or abused, thereby to contribute to a better world.

All this and more may be said of Major Armstrong, the price for whose courage in life and devotion to a cause was untimely death.

Ouch!

THE millions of Americans who daily swallow innumerable aspirin tablets—to combat "morning headache" and such contemporary ills promulgated so convincingly by radio announcers and other advertising media—would be startled to know that some of the best objective methods available for evaluating pain-relieving effect of drugs do not demonstrate the analgesic powers of aspirin. This fact is often cited by students of *dolorimetry* (the quantitative study of pain) but this is not to deny the pain-relieving efficacy of aspirin; such efficacy is acknowledged to be categorically established by long, practical experience. The relationship is cited, rather, to emphasize the pitfalls of pain-study methods.

Dolorimetry is beset by at least one general difficulty applying to all quantitative biological studies, and by at least four unique difficulties. In pain response, as in all characteristics, human beings show a wide range of variability. Hence in pain studies, as in all quantitative physiological research, single observations are meaningless. Substantial numbers of subjects must be used in any test; results must be interpreted by means of the specialized techniques of mathematical statistics.

Experimental difficulties unique to human pain studies include the totally subjective nature of pain, the impossibility of using animals as subjects, the fact that "placebos" (inert materials) have definite pain-relieving effectiveness, and the possible multiple nature of pain.

Pain is purely subjective, is manifest only as a symptom. Hence the doctor must take at face value whatever his patient tells about the presence or intensity of pain; there is no objective clinical sign for

*Text of an address given by Professor Bowles over WGBH, the frequency modulation station of the Lowell Institute Co-operative Broadcasting Council, on the occasion of the untimely death (on February 1) of a radio pioneer and outstanding contributor to radio science.

pain verification. It is obvious, then, that quantification of pain — whether it hurts a little or a lot, or how today's pain compares with yesterday's pain — is highly approximate.

These observations point to another special obstacle in pain studies, the impossibility of using experimental animals. The veterinary is said to have a harder job than the physician because the animal patient cannot say where it hurts. Animals may be used as readily as human beings to study drugs producing effects that can be objectively measured; for example, variations in pulse rate or in blood pressure. In pain studies, animals are relatively useless because there is no objective measure of pain.

An intriguing difficulty in pain studies is the extraordinary phenomenon of placebo reactors. A placebo (pluh-see-bo) is an inert substance administered in the guise of a drug to a patient who thinks he is receiving a potent medication. Placebos have had a place in medicine through the ages. Their effectiveness is not limited to psychosomatic ills; placebo reactors are not necessarily malingerers or neurotics. Indeed placebos are known to bring dramatic relief to some people suffering pain from extensive tissue injury, as in a wound or a major surgical operation. Hence studies of pain relief by drugs must be done by testing in parallel a placebo, an analgesic drug of known potency, and the drug whose analgesic properties are being assessed.

Finally, pain studies are complicated by doubt as to whether pain may be regarded as a unitary phenomenon. Thus the effect of drugs on pain response is sometimes studied with normal human subjects by exposing the skin, as on the forearm, to heat until a sensation of pain is noted. Do findings made in this way apply to pain from extensive tissue damage as in surgery? Or to the agonies of childbirth, where pain arises from spasms in involuntary muscle?

Much excellent research is now fast converting dolorimetry into an exact science. Outstanding studies are being done at the Massachusetts General Hospital. An example of the refinements in technique established by the latter studies is proof of the necessity of keeping the experimenter, as well as the subject, in the dark about the identity of placebo, standard drug of known potency, and new drug being tested. It was discovered that no matter how scientifically disinterested the experimenter may be, results are distorted if he knows what he is working with. Therefore, it is necessary to have all test substances coded by someone having no direct contact with the experimental work.

Recent advances in dolorimetry are welcomed because they facilitate discovery and evaluation of improved pain-relieving drugs. The new methods are also enabling re-evaluation of standard drugs, whose usage is based solely on practical trial and error. Thus the standard dose of morphine was established at 15 milligrams on the basis of centuries of trial and error (employing crude opium in the early days). But new studies, employing the methods of modern dolorimetry, have shown that half as much morphine—eight milligrams—actually gives maximum pain relief. In short, half of the world's supply of this valuable drug has been wasted through the centuries.

Whaling a la Mode

THE pursuit of the whale is taking an increasingly technical turn. Time was when the main requirements were a brawny arm, a good eye, a harpoon, and a 25-foot whaleboat. Today, when the number of whales taken yearly is many times that in the historical heyday of whaling just before the Civil War, the American invention of a mother ship and a swarm of whaleboats operating as a group is still the pattern. A few small innovations, however, have been added. The iron-tipped harpoon has been replaced by an explosive missile fired from a small cannon; the mother (or factory) ship has grown to be one of the largest types of merchant ships built, with facilities for dragging the entire whale aboard and extracting the oil not only from its blubber but also from its bones and meat; and the whaleboats, now called killer boats or whale catchers, would put some submarine chasers to shame, although during World War II those who manned these underwater denizens felt they were operating a product highly representative of the technology of the Twentieth Century.

An example of the modern whale catcher is the *Enern*, largest of the 230 such ships of various designs now serving European whaling fleets. With a length of 210 feet, a gross tonnage of 908 tons, and a propulsion plant of 2,700 horsepower, this ship can pursue a whale at 17 knots, and recently completed a record run from antarctic waters to her home port in Norway in 21 days, 17 hours — after killing 245 whales during her first season. (These figures will bear comparison with the first trip of the *Charles W. Morgan* which took three years, three months, and twenty-four days. Fifty-three sperm and eight right whales were caught.) Navigating equipment includes gyro-compass and radar. Another feature is a variable pitch propeller which can be operated remotely from several positions on the ship. One such station is the gunner's platform, far out on the bow. It may be of interest that the gunner and captain alone share separate cabins. In the old days the harpooners were a cut below the mates in rank.

Apparently there is enough parallel between hunting for whales and hunting for submarines to merit the use of two modern devices which have proved their worth in antisubmarine work. These are sonar and the helicopter. The value of the helicopter in searching for whales, which can be seen from the air at considerable depths, as well as when blowing, is obvious. As for the sonar, a British firm has adapted that instrument to whaling requirements, so that the whale, once located, can be tracked in range and bearing, and will less frequently outguess the gunner. Range scales up to 2,000 yards (about one nautical mile) are provided. At least 11 whale catchers are now equipped with sonar.

Another refinement borrowed from naval warfare is the radio transmitting marker buoy. Since it is reported that 10 per cent of all whales killed are lost before the factory ship can recover them, the marking of a killed whale is, as it has always been, a serious problem. The new marker buoy, built of lightweight alloys, contains an automatic radio transmitter or beacon with a range of about 30 miles and battery capacity for about three days of operation.

SOME ASPECTS AND INCIDENTS OF Atmospheric Pollution

By HAROLD BAVLEY

THE importance of atmospheric pollution has been greatly augmented due to recent surveys and legislation propounded by some of the larger towns and cities in the United States. The public interest has become intense because of the tragedy which occurred in Donora, Pa. Similar occurrences have been reported from time to time in various industrialized areas of our country, but it seems that only with the occurrence of the several fatalities in the Donora episode has the public become truly conscious of the problem and the inevitable results when atmospheric contamination by toxic fumes, gases, or smoke, is neglected or regarded with little concern. However, the subject is an ancient one, probably dating as far back as the Middle Ages. It has been recorded that Queen Eleanor, wife of Henry III, was obliged to leave the town of Nottingham due to the unpleasant fumes arising from the burning of sea coal. The burning of sea coal was prohibited in London in 1273 as being prejudicial to human health.

John Evelyn, the English diarist, in his pamphlet entitled "Fumifugium" published in 1661, refers in no measured terms to the effects of coal smoke in the city of London: "That This Glorious and Ancient City—should wrap her stately head in Clouds of Smoake and Sulphur, so full of Stink and Darkness, I deplore with Just Indignation."

It may seem that as man became more proficient in production and built his huge industrial plants, the concentration of foreign substances in the atmosphere increased. Unfortunately, a mistaken idea that smoke stacks pouring forth their clouds of Stygian darkness show a sign of prosperity and progress still persists. During a recent survey of a smoke and soot nuisance complaint in a city located in the Connecticut River Valley, an official of that city stated when advised of the purpose of the survey that, "Smoke in the air over a city is a sign of industry, and if one should find a smokeless industrial city, it would be a 'dead city,' a city without industry, a city in the throes of depression." However, the public, particularly the working public, has become conscious of improved conditions at their places of toil, and have revolted against the formerly accepted standard of polluted atmosphere as a necessary evil. Plant owners and many public servants now feel that it is not necessary to pollute the atmosphere outside the plants by smoke, dust, and fume. They have realized that it is a sign of inefficiency and waste to allow smoke and soot (a sign of poor combustion and a waste of power), dust and fumes (which may be salvaged), to escape from the various plant discharge outlets into the atmosphere breathed by the public. The public has begun to complain and rightly so; for the undesirability of

a polluted atmosphere from a health, social, and financial point of view is not debatable.

The community "cost" of a pollution nuisance is real and specific. Atmospheric pollution, particularly by smoke and soot, has been found to lower resistance to diseases, to lower vitality, and to increase sickness and the need for medical attention. Dr. I. H. Alexander, Director of Public Health, Pittsburgh, Pa., basing his remarks on statistics relative to pneumonia, has stated that: "It is without doubt the most important factor contributing to the high pneumonia mortality rate in industrial cities." The medical and scientific director of the American Cancer Society, Dr. Charles S. Cameron, recently listed smoke pollution as one of the factors that may favor the development of cancer. In the *Smoke Abatement* bulletins published by the Mellon Institute, Pittsburgh, smoke is accused of "stealing" sunlight. The bulletin further states:

The smoke from factories and domestic fires, by filling the atmosphere with opaque clouds of smoke and by inducing mists and fogs, deprives the city dwellers of the luminous vitalizing, cheering, health giving, germicidal rays of the sun.

The dark smoke strata of our cities intercept the bactericidal rays of the sun. These rays either check the growth of, or completely exterminate various kinds of pathogenic bacteria. Their deadly effect on the tubercle bacillus is universally recognized.*

A study by the United States Public Health Service of the decrease of light caused by smoke was made in the lower end of Manhattan in January, 1927. On sunny days it was found that there was a reduction of 42 per cent in the amount of daylight at eight o'clock in the morning, and of 18 per cent at noon.

Thus atmospheric pollution becomes a public health problem and must be considered to be of great concern to any community that would conserve the vital efficiency and protect the inhabitants' health.

An appeal to the local authorities that the atmospheric pollution by smoke, dust, or fumes may affect the health of the citizenry is not always welcomed by those holding political offices. However, as was previously indicated, atmospheric pollution is not only of medical concern, but a most important economical aspect is involved. The polluting agent is not only harmful to plant and animal life but may be a nuisance and damage our buildings, causing increased cost for cleaning, painting, and refinishing of building exteriors; it is destructive of real estate values and has started the migration of city dwellers into the suburbs; it depreciates merchandise; it increases soap, laundry, and dry cleaning bills in the home, in addition to marked depreciation of interior furnishings,

* Please see references at end of article, page 316.

thus increasing household living costs. It increases the amount, and therefore, the cost, of illumination used in the home and in business.

Professor Philip Drinker of the Harvard School of Public Health has defined atmospheric pollution as an unusual concentration of any substance in the atmosphere. These substances may be either solid, finely divided particulate matter, such as smoke, soot, cinder, fly ash, dust and pollen, or gases and mists not usually found in the normal atmosphere. Even though nature by attrition, disintegration and other phenomena, such as volcanic eruptions, dust storms, and the formation of fogs and mists, is guilty of atmospheric pollution, nevertheless man-made contamination is probably of greater significance and more easily subject to control. This latter source should be attacked first.

The belching stacks of industrial plants, locomotives, and docked ships spew forth contaminants that pollute the atmosphere. The smoking chimneys of dwellings, apartments, and public and commercial buildings also contribute their share. Of all the substances that are dispersed in the atmosphere, smoke from the combustion of coal, while not the most toxic, certainly is the most abundant and is the major source of complaint by the public.

When any fuel is burned, combustion products must be formed. If the combustion is not perfect, minute particles or solids, called soot, carried in the combustion products, make these visible. With some coals the ash becomes a powder and under certain conditions of fuel bed and draft, the ash may be drawn through the stack and when emitted will be visible. The term "smoke" is applied to combustion products that carry visible solid matter. As the solid matter increases, the density increases until the smoke becomes an opaque dark cloud. The public's primary concern is with the soot. Soot is a mechanical mixture of fine particles of unburned carbon, tars, ash, and frequently sulfur and other compounds. The tar which the soot contains causes the soot to become a sticky mixture.

The smoke nuisance is caused primarily by bituminous coal, which contains volatile matter. This volatile matter passes off as a condensable vapor when the coal is heated. Different bituminous coals vary widely in the amount of volatile matter they carry. A low volatile bituminous coal is available on the market and should be used whenever practical. Massachusetts is known as a "hard coal state," as far as domestic heating is concerned, but the many diversified industries in the Commonwealth use greater quantities of bituminous coal for plant heating and processing than they use of the liquid or gaseous fuels. However, it is believed that more oil and gas will be used in the future if the use of these newcomers becomes economically feasible or if the threat of coal shortages continues.

The primary cause of atmospheric pollution by coal smoke is the failure to secure a sufficient amount of air intimately mixed at the proper temperature for the correct time interval with the combustible gases that are given off by the burning fuel. The secondary cause is carelessness, ignorance, and indifference in the firing and operating of fuel-burning equipment.

Using a fuel suited to the equipment, keeping the equipment in good condition, firing carefully and intelligently and using automatic fuel-burning equipment wherever possible should aid materially in reducing the amount of smoke emanating from the stacks. The control of smoke at its source is an economic necessity, for fuel costs must be figured as part of the production cost. It is part of the overhead. Improved combustion of coal will result not only in the control of the smoke nuisance, but also result in the efficient use of a commodity that may become "scarce" without notice.

Unfortunately, smoke, soot, and the other products of poor coal combustion have no particular salvage value. Therefore, all efforts must be directed to prevent generation and dispersion of these substances.

Although coal smoke is the most prevalent of atmospheric contaminants, other dusts, fumes, and gases may also be indicted as substances causing pollution. Foundries, chemical plants, and dusty industries in general may pollute the air with process effluents which may have either toxic or nuisance properties. It is indeed fortunate that in most cases the concentrations of toxic contaminants discharged from some of our plants are so quickly reduced by dilution in the surrounding atmosphere that no immediate danger exists. Most complaints by the public are due to the nuisance created by the discharged matter. However, the literature is replete with incidents in which the public has been injured or poisoned by toxic materials from industrial plants.

The episode now called the "Donora Disaster" occurred during the latter part of September, 1948, when heavy smoke and fog settled over this small industrial city located in Pennsylvania's Monongahela Valley. Lack of air movement plus the continuous discharge of fine particulate matter, gases, and fumes into the atmosphere by the industrial plants in this area, contributed to the density of the smog. After two or three days, the atmosphere had become so contaminated that a large section of the populace, particularly those suffering from cardiac and asthmatic conditions, were affected. Nineteen of these sufferers died, and 500 to 600 more were treated by local physicians and hospitals. The State Department of Health, the United States Bureau of Mines, and the United States Public Health Service, immediately dispatched investigators to the affected areas to determine the cause of the atmospheric pollution. Preliminary reports indicted sulfur dioxide, sulfur trioxide, and fluorine as probable indirect causes of the catastrophe. Subsequently, the Division of Industrial Hygiene of the U.S. Public Health Service, at the request of the state government, management, and labor, conducted a detailed investigation of the nature and causes of the contaminants, the probable long-range effects, and methods for controlling future atmospheric pollution in this valley. The results of this study have been published.

Similarly, in the latter part of 1930, a thick fog of unknown origin blanketed a good portion of the Meuse Valley in Belgium. More than 60 people died after a short acute respiratory illness of three or four days. Many head of cattle died or had to be slaughtered. When the fog disappeared on the sixth

day, the respiratory trouble went with it. Hydrogen fluoride and other fluorine compounds, emanating from industrial stacks, plus a particular set of meteorological conditions, have been blamed for this catastrophe. Another investigation seems to indicate that these deaths were due to sulfur dioxide gas. The Meuse Valley incident received widespread publicity because of its dramatic suddenness and the imaginative theories expressed in the newspapers connecting it with a possible hidden supply of war gases.

Only a few years ago neighbors of a plant engaged in handling beryllium compounds have allegedly contracted chemical compounds from the beryllium dust.

The Division of Occupational Hygiene was requested by the Health Department of the City of Boston to investigate a complaint wherein the occupants of a multi-tenanted building complained that ether vaporizing during the cleaning operation involved in the manufacture of white shoes caused headaches and nausea. The cleaning operation was being conducted adjacent to the stair well, so that there was a tendency for the diluted ether-air mixture to travel upward within the building, resulting in the easy detection of the odor. It is doubtful that the actual ether concentration was toxic. However, the psychological effect was apparent. This same shoe manufacturer had only recently relocated this operation, which was formerly situated near the windows fronting on a school, after the school authorities had complained that the ether vapors had caused illness among the school children and teachers. Installation of a wall fan afforded improved ventilation, and the vapors were exhausted to the outdoors. The tenants ceased their complaints after the simple improvement was made.

A Worcester plant engaged in the manufacture of chrome-plated metal furniture occupied the basement of a three-story building. A tool manufacturing plant was located on the upper floors. A heavy concentration of chromic acid mist was discharged from the plating operation to the outdoors. The discharge duct ended directly below the windows of the tool manufacturer. Very little wind was needed to blow the diluted chromic acid mist into the plant whenever the windows were open. The employees of the tool company complained of nasal and throat irritation, while the plant management avowed that damage was being done to the machines and product. On the recommendation of the Division of Occupational Hygiene, the discharge duct was extended well above the roof of the building and weather-capped.

A Salem plant asked our advice on the elimination of atmospheric contamination by hydrochloric acid and nitrous oxide fumes discharged from a metal-cleaning operation. Neighbors, as well as the plant employees working in an adjoining building, had complained of the irritating effect of this effluent. The plant management was very co-operative in eliminating the cause for complaint. At present the exhausted mixture from the metal cleaning booths passes through a water and caustic washing system. The discharge duct has been elevated to 10 feet above the roof of the adjoining building. There have been no further complaints.

While such incidents as the Meuse Valley disaster are more spectacular and receive more publicity, the greatest number of complaints have to do with the "nuisance" created by substances that pollute the atmosphere. Nuisance has been defined as an offensive, annoying, unpleasant or obnoxious thing or practice. Certainly the pollution of the air we breathe by substances such as smoke, dust, and gases and the resulting annoyance and unpleasantness might classify atmospheric contamination as a nuisance.

A survey in which the Division of Occupational Hygiene of the Department of Labor and Industries, and the Division of Sanitary Engineering of the Department of Public Health co-operated, was conducted as a result of complaints by neighbors of a rock wool manufacturing plant located near Pittsfield. On investigation, it was found that tons of fine rock wool were being discharged from the plant and showered down upon several houses and the land located within a half mile radius of the company. Large quantities of light dust were emanating from the top of the blow chamber of the blast furnace. The plant management realized that not only was the nuisance complaint justified, but that a large volume of valuable product was being lost. At a meeting of the Board of Directors, it was decided to appropriate \$10,000 for a dust-collecting system.

A group of irate neighbors petitioned the Mayor and the Health Agent of the City of Chicopee to investigate and eliminate the smoke and dust nuisance with which they had been afflicted. The purpose of the investigation was to determine the nature of the nuisance dust, the place of origin, and the means necessary to prevent the nuisance. Samples of the dust were obtained at the homes of the complainants and studied chemically, microscopically, and by x-ray diffraction in our laboratory. It was concluded that dust from a coal yard and passing trains, and soot from undetermined sources contributed to the nuisance. A company located in the vicinity using graphite and charcoal in the manufacture of foundry facing compounds was found not to be incriminated. Chicopee is located across the river from Holyoke, a highly industrialized city. It appeared that in addition to the smoke and soot being discharged from the industrial stacks in Chicopee, considerable smoke could be seen emanating from the industrial power plants along the Holyoke side of the river. These Holyoke plants were believed to be contributing to the atmospheric pollution complained of by the people of Chicopee, since the prevailing wind would normally carry the smoke across the river from Holyoke to Chicopee. Since this was a problem that affected more than a single community, it was proposed that the officials of the cities of Chicopee and Holyoke and the surrounding towns that were affected hold a conference to discuss this problem. Following this, if all agreed to the seriousness of the problem, proper legislative action could be taken to promote a smoke abatement program, similar to that which has been adopted by Metropolitan Boston. Approximately 30 towns and cities are represented on a commission which is headed by a qualified engineer. A single commission could be formed by the cities and towns in the Southern

(Continued on page 310)



The first classes of M.I.T. were held in the old Mercantile Library Building at 16 Summer Street, Boston, from February, 1865, until the fall of 1866. The Mercantile Library was destroyed by fire in 1872.

Architecture of M.I.T. Buildings

Since the Civil War, Trends in American Architecture

Have Been Reflected in the Form and Structure

of the Institute's Educational Buildings

By CAROLINE SHILLABER

Part I

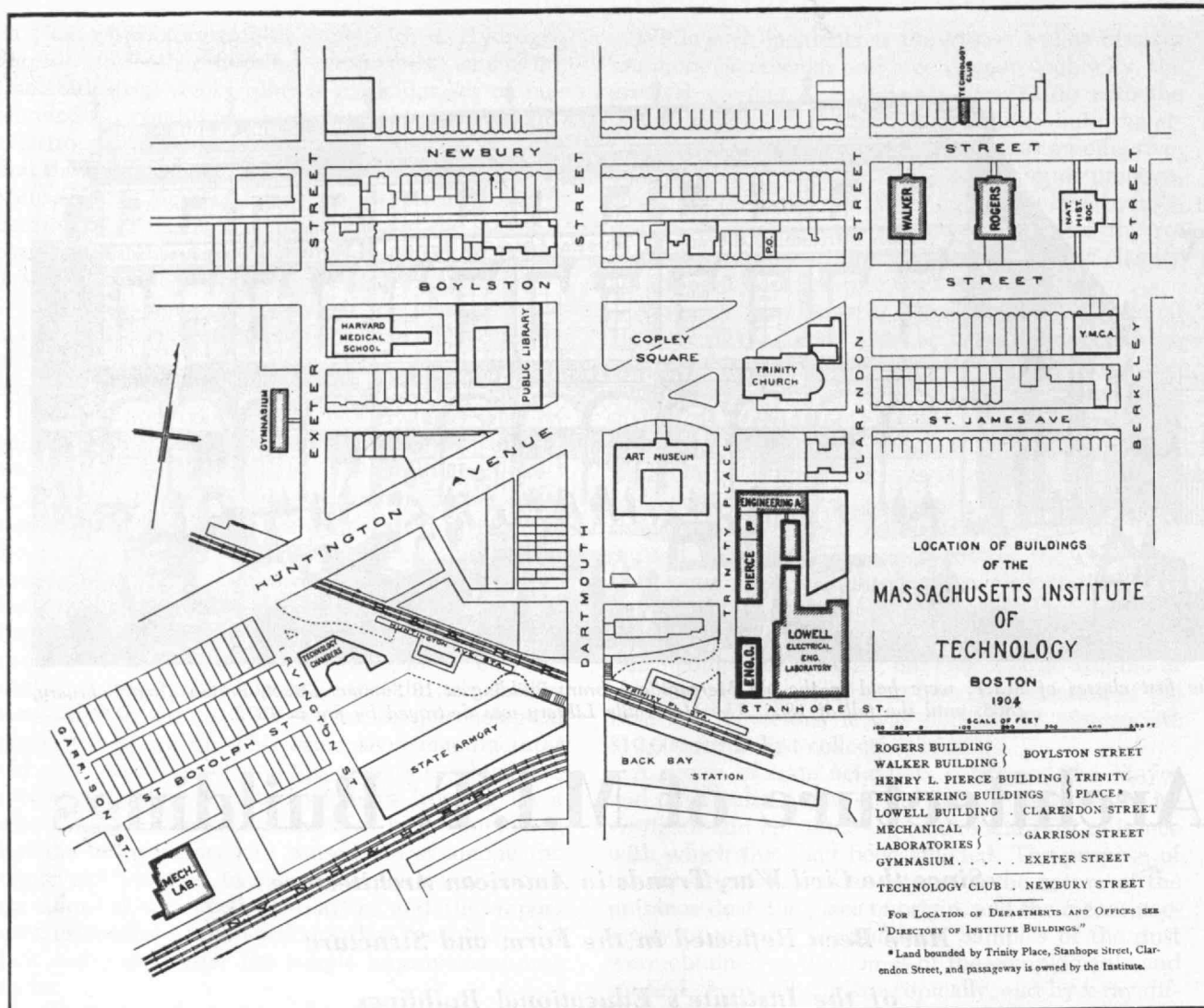
WITHIN the long tradition of classic architecture and the wide scope of modern taste, M.I.T. has built approximately 100 buildings dedicated to learning and to research. In the history of its buildings is reflected the development of M.I.T. that, in the years of its growth, paced the progress of America from 1861 to the present time.

When the Institute was granted its charter by the Commonwealth of Massachusetts on April 10, 1861, the United States was a nation of 34 states on the brink of a civil war. In fact, Fort Sumter was fired upon just four days after M.I.T. received its charter. Less than three years earlier the first message had been sent (August 17, 1858) between England and the United States by transatlantic cable shortly before Darwin's *Origin of the Species* appeared in print. The first oil well to be drilled in America was begun at Titusville, Pa., on August 28, 1859. In 1861, George F. Blake invented the water meter and Oliver Wendell Holmes is credited with having devised the stereoscope. Rapid strides in transportation and communication were being made with networks

of telegraph and railroad lines crossing the nation, and locomotives traveled at 15 miles per hour.

Although the United States was about to be transformed from an agricultural to an industrial nation by the application of science, the field of technical study was still unexplored in the colleges and universities. The importance of applying science and engineering to the development of industry was recognized, however, by William Barton Rogers, founder of M.I.T., who determined to establish the Institute with three branches: a Society of Arts, a School of Industrial Science, and a Museum of Technology.

The Society of Arts came into existence first with headquarters in the old Mercantile Library Building at 16 Summer Street in Boston. In February, 1865, the School of Industrial Science held its first classes in the same building, classes that inaugurated the phenomenal development from a school of 15 students to a complex organization geared to teaching and research at all levels of modern industry. A fire destroyed the Mercantile Library in 1872, but a tablet (actually placed around the corner on Hawley Street) marks



Between 1866 and 1903 the Institute built and used a group of buildings (shown above with outlines shaded) in Boston's Back Bay area.

the birthplace of M.I.T. While the birthplace possessed no architectural distinction it happened to be one of the many buildings designed by Gridley J. F. Bryant who had one of the largest architectural practices of his time.

In the fall of 1866, the Institute moved into its own quarters on Boylston Street, the Rogers Building. This

When M.I.T. was known as "Boston Tech" its presidents occupied this imposing office, devoid of desk telephones.

was a handsome structure for its day designed by the architectural firm of Jonathan and William G. Preston, and not unlike the adjacent Museum of Natural History which has survived with its exterior little changed as the fashionable store of Bonwit Teller. Rogers presented a belated and somewhat stilted appearance of the Greek revival style that had flourished in Philadelphia, New York, and Boston before the Civil War. From the Rogers Building 14 students were graduated in 1868.

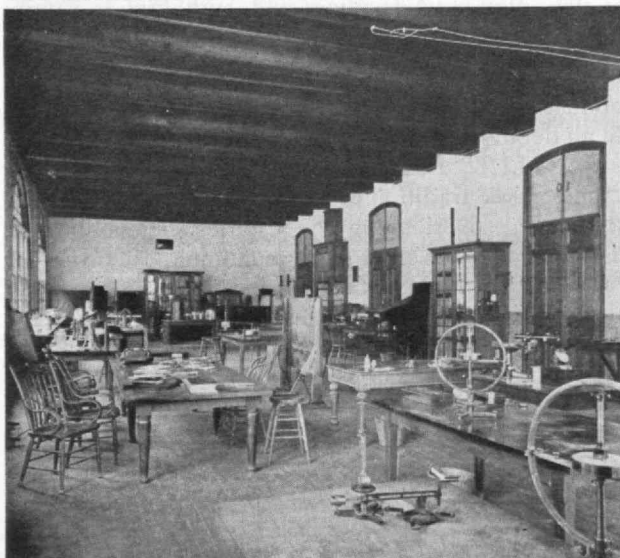
Succeeding classes increased steadily in size and a one-story building was put up beside Rogers in 1876 with laboratories reserved for the use of young ladies who had first secured admission in 1871 with the acceptance of Ellen Swallow, a Vassar graduate, as a student in chemistry. She was graduated from M.I.T. in 1873, married Professor Robert H. Richards, '68, and in 1876 was appointed instructor in the Women's Laboratory as the building was called. Fortunately, it did not long survive under the scornful name but was torn down, together with shops that had been erected on the corner of Boylston and Clarendon streets, to make way for a new building in 1883, Walker, named for General Francis Amasa Walker, Third President of M.I.T. Although lacking the archi-



Walker Building (left) built in 1883, and the original Rogers Building (right) built in 1866, were the hub of the Institute's academic life. Bearing a somewhat stilted appearance of the Greek revival style, Rogers was used by the Department of Architecture until 1938.



The six-story building illustrated above comprised Engineering A (left), Engineering B (center), and the Henry L. Pierce Building (right) built in 1889, 1892, and 1898, respectively. The three-story structure at the left is Engineering C, built in 1903. The Rogers Advanced Laboratory of Physics (left) and the library in Rogers Building (right) are shown below.





An aerial photograph of the M.I.T. buildings along the Charles River in Cambridge. Taken about 1936, this view shows the status of the Cambridge campus at the beginning of what may be termed the modern era in the Institute's architecture.

tectural elegance of Rogers, Walker was approximately the same size and included special rooms for the use of women students provided by funds raised largely through the efforts of Mrs. Richards. Rogers and Walker, together with a gymnasium on Exeter Street and shops on Garrison, were soon outgrown and a series of buildings was begun on Trinity Place.

These buildings were known as Engineering A, B, and C, built in 1889, 1892, and 1903, respectively. Professor Francis W. Chandler was architect of A and B, and Rand and Skinner (Theodore H. Skinner, '92) of C. Engineering B was planned originally for the Department of Architecture but the latter moved into the Henry L. Pierce Building (Professor Eleazer B. Homer, '85, architect) when it was constructed in 1898. In 1902, the Department of Electrical Engineering was transferred from Walker Building to the Augustus Lowell Laboratory (Rand and Skinner, architects) built especially for its use.

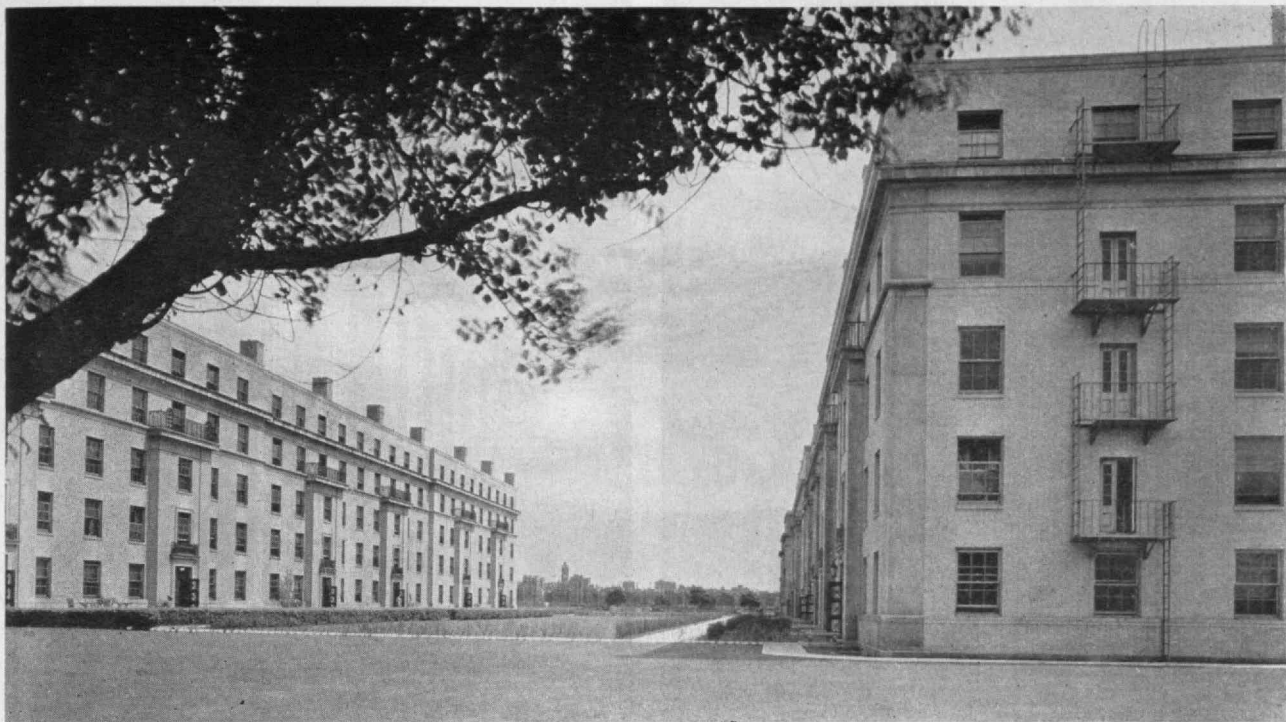


Numerous though all these buildings seemed at the time, in less than 10 years, they, too, were inadequate to accommodate annual increases in enrollment, and the Institute solved the dilemma with characteristic originality and enterprise; it moved. Classrooms, laboratories, shops, libraries, and lecture halls were all moved from Boston to Cambridge. After possible sites in Boston were rejected, 50 acres on the Charles River Embankment were chosen in 1911. M.I.T. bought the land, constructed one vast edifice to house its diverse activities, and on June 14, 1916, dedicated its new establishment with ceremony due such an ambitious undertaking.

The new site in Cambridge gave to M.I.T. a sweeping view of Boston. The Charles River in the foreground adds perspective and interest to the symmetrical design of M.I.T. buildings that is forceful in its simplicity and imposing in its classic proportions. The architect, William Welles Bosworth, who was graduated from M.I.T. in 1889, brought to his task experience in complex building projects and a brilliant ability to create powerful compositions by sketching in all details with broad, sweeping strokes.

For M.I.T., Bosworth imagined a design in the grand classic tradition that harmonizes perfectly with the setting overlooking the Charles. The buildings flow from either side of a monumental portico in broad straight lines that parallel the River and its bordering highway. The center is marked by a great dome that dominates the composition and emphasizes the symmetry of the classic order. On the ground floor under the great dome may be found the dynamos and motors of the Department of Electrical Engineering.

Dedicated in June, 1916, but completed in 1917, was Walker Memorial, designed as a recreational center for students, and so used even today.



Dormitory buildings built between 1924 and 1931 were intended to form a quadrangle. The east and west sides of the quadrangle have not been built to connect the east wing (left) with the west wing (right).

The central buildings of the group form a major court with two smaller lateral courts that appear as flanking pavilions, although there is no interior division between the individual buildings. Unity of design was achieved by reducing the Ionic order of the central building to a minor scale of two thirds in the lateral courts.

The immense dome of the central building is patterned after the Pantheon in Rome. Actually it consists of two drums of reinforced concrete — one set within the other, with a spherical cap over the second. The portico of the main façade, distinguished by 10 Ionic columns, borrows depth from the width of the central court, for actually it is shallow in order not to darken the interior lobby.

In the orientation of the buildings as a group, care was taken to arrange them so that classrooms would secure a maximum amount of sunlight. This first group of buildings, like many of later date, was of limestone with a warm tone that reduces glare from the sun. Landscaping the grounds had to wait until 1928 when the courts were graded and planted with turf, elms were set in orderly rows parallel with the buildings, and sycamore, dogwood, and other trees and shrubs were massed in low-growing groups before the main portico. Finally, connecting paths were laid out between the various entrances.

The new buildings were designed to accommodate all the educational activities which ranged

through the fields of engineering, science, and naval architecture, with the exception of architecture which remained in the Rogers Building in Boston until a later date. The circular room under the dome, originally intended as an auditorium, with appropriate monumental staircase, was used as a library with a narrow, inconspicuous flight of stairs. Lecture halls, classrooms, drafting rooms, laboratories, shops, and several specialized libraries were arranged throughout the new buildings in a logical plan according to use and type of equipment. The first group of buildings was finished in 1916 and was planned for 2,000 students. But M.I.T. wisely adopted a policy of providing for expansion adequate for twice that number by additions to this central core that would preserve the unity of its architectural design.

Another building, east of the educational group, was also dedicated in June, 1916, although it was not completed until 1917. This was Walker Memorial designed by Bosworth to serve as a recreational and social center for students who had lacked a common dining hall and meeting place for college activities during the early years of the Institute in Boston. Bosworth adopted the same style and gray limestone for

This photograph shows the George Eastman Research Laboratories of Physics and Chemistry as they appeared shortly after the Eastman structure was completed in 1932.



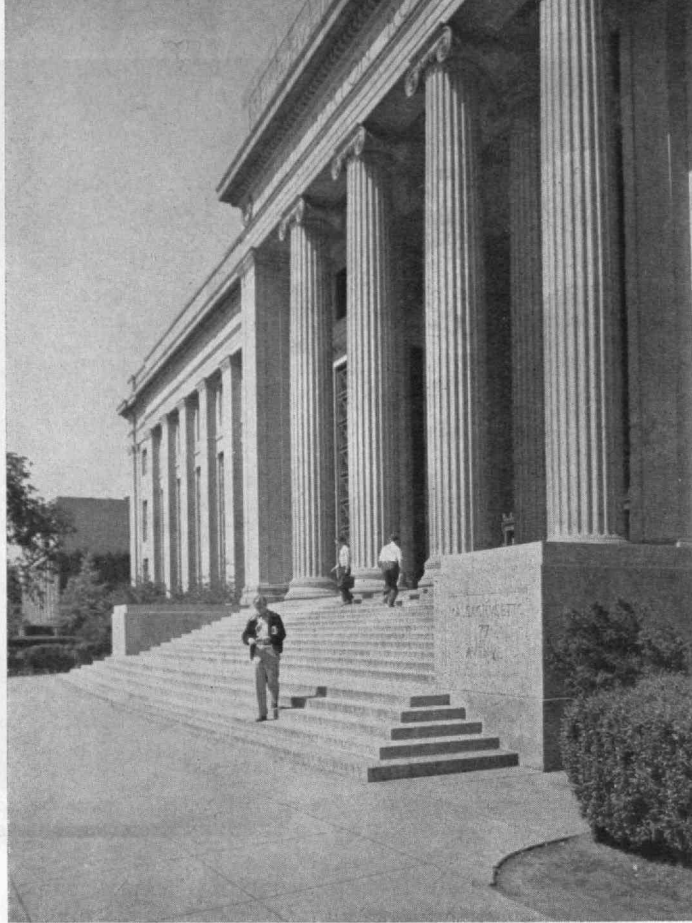


Entrance to the Pratt School of Naval Architecture and Marine Engineering, built in 1920. Large ship's anchors now adorn the entrance on each side of the staircase.

Walker Memorial as was used for the main educational group so that all buildings, which soon included dormitories, would have a homogeneous appearance.

Walker Memorial faces the Charles River and is a solid building that conceals, behind its classic façade, the various activities it was intended to accommodate. The portico is not wide but its six massive Doric columns express the same dignity and strength as is expressed in the other Bosworth buildings. The first floor was devoted to a dining hall, while other sections

The official residence of the Institute's president is this handsome structure completed in 1917, and first occupied by Richard C. Maclaurin.



The new William Barton Rogers Building, built in 1938, serves as main entrance to the Institute and houses the School of Architecture and Planning in Cambridge.

of the building were reserved for athletic or social purposes, with one room set aside for meetings of the Corporation of M.I.T. The walls of the main hall are decorated with murals designed by Edwin Howland Blashfield and painted by his assistant, Vincent Aderente. Blashfield, who was graduated from M.I.T. in 1869, had a long and distinguished career in mural painting; included in his accomplishments were the murals for the interior of the dome in the Library of Congress. In 1923, although nearly 80 years old, Blashfield undertook to design and to direct the entire Walker Memorial project, partly as a commission and partly as a gift. Aderente completed the central panel with such success that Blashfield was encouraged to add two panels on the opposite wall and to repaint the entire hall in order to unify and to harmonize the room as a whole.

During its years in Boston, M.I.T. had no dormitories, although a group of individuals constituting the Technology Chambers Trust put up one hall on Huntington Avenue in 1902 that was supervised unofficially by the Institute. This was designed by Walter H. Kilham, '89, for 178 students, but Technology Chambers housed a very small proportion of undergraduates.

When M.I.T. moved to Cambridge, Bosworth was commissioned to draw plans for a dormitory unit of six houses, named Ware, Atkinson, Runkle, Holman, Nichols, and Craft. Built on Memorial Drive in 1916 this dormitory was designed in the classic tradition

(Continued on page 322)

Tornado in New England

*Stricken Region of Central Massachusetts Rebuilt
through Huge Co-operative Effort of Rehabilitation*

By WALTER C. VOSS

A certain man went down from Jerusalem to Jericho, and fell among thieves, who stripped him of his raiment, and wounded him, and departed, leaving him half dead. . . .

But a certain Samaritan . . . came upon where he was, and when he saw him, he had compassion on him. And went to him, and bound up his wounds . . . and set him on his own beast, and brought him to an inn, and took care of him. And on the morrow when he departed, he took out two pence, and gave them to the host, and said unto him, Take care of him; and whatsoever thou spendest more, when I come again, I will repay thee. — Luke 10:30, 33-35.

JUNE 9, 1953, provided the incident and setting for the most realistic application of the typical American reaction to a great need. In the early afternoon of this hot and humid day, the inhabitants of a 40-mile belt of countryside in central Massachusetts, including the 11 communities of Petersham, Barre, Rutland, Holden, Worcester, Shrewsbury, Westboro, Southboro, Northbridge, Sutton, and Wrentham, were apprehensive of the ominous darkness of the sky and the dead stillness which usually precede a thunderstorm. As usual they closed their windows or hurried a bit on their way home and waited for the thunder, lightning, and rain. But this afternoon was to be different. Warm, moist air had been moving in from the Gulf of Mexico and a layer of cold air from the northern Pacific regions was moving in over the warm air. A strong ground wind current caused the warm air to rise up into the upper, colder air. Then the air pressure dropped suddenly from a normal of 15 pounds per square inch to 11

pounds per square inch. This provided the differential necessary for high winds which coiled into the cone of the most disastrous tornado ever experienced in the history of New England.

At about 4:30 P.M. the first fury of this upheaval of nature vented its force on a Petersham meadow, blasting a crater about 100 feet in diameter and 6 feet deep. It moved on from here at a speed of about 40 miles an hour, accompanied by heavy rains, hail, and thunder and lightning. It did not lose its fury until it reached the town of Wrentham, where it subsided at 5:40 P.M. Passing through and striking less densely populated areas, it nevertheless, in a little more than an hour, left in its path, 88 dead, over 1,000 injured, demolished 641 homes, seriously damaged 2,028 others, ripped through the 600-unit federally aided Great Brook Valley Gardens and the 390-unit state-aided Curtis Apartments projects, and left 12,000 persons homeless. Property damage was estimated at \$60,000,000. Then the sun came out and the sky cleared as if nature was taking compassion on the area by providing it with a period of daylight and respite to bind up its wounds.

An analysis of the forces involved in the action of a tornado of these proportions discloses some fantastic figures. The vortex of this tornado varied in breadth from 300 feet to 2,500 feet in its oscillations. The circumferential velocities of the wind in the rising swirl varied from 350 to 500 miles per hour. Using the commonly accepted empirical relation between velocity and pressure, these velocities would indicate average static pressures varying from 490 to 1,000 pounds per square foot. When these are translated into impact

The tornado that crossed central Massachusetts on June 9, 1953, completely demolished wooden frame buildings (left) but concrete framed buildings (right) remained standing, even though damage to the interior was appreciable, and roofs were ripped off.

Marvin Richmond



effect, they may rise as high as 2,000 pounds per square foot. If one adds to these forces the boundary effects of partial vacuums produced by restrictions in the path of the moving air, it becomes increasingly clear that local areas could exist where the effects far surpass the pressure effects of the original atomic bomb. When one remembers that our structures are designed to resist safely lateral forces of only 40 pounds per square foot, it becomes even more evident how hopeless the situation was.

As a result, wooden framed buildings were demolished. Buildings which were built with bearing walls for the support of concrete slabs or steel interior frames were destroyed in part, when pressures and vacuums coupled to lift slabs long enough to allow pressure pulses to blow out bearing walls before the slabs could return to their original position upon release of the pressures. This was clearly demonstrated in the state-aided Curtis Apartments project. The completely concrete-framed federally aided Great Brook Valley Garden Apartments project was left in a structurally sound condition except for the

Worcester Telegram-Gazette



collapse of the two high stacks of the powerhouses and the damage done by the impact of debris hurled against the walls. In both of these projects the roofs were stripped off of all buildings, glass sheared off close to the metal frames, and contents of all apartments were badly damaged in almost all cases.

With the prompt realization of the extent of the catastrophe, local, state, and federal officials moved swiftly to cope with the situation. Francis J. McGrath, City Manager of Worcester, immediately declared a state of emergency. Civilian Defense, which had made plans for disaster relief, was quickly mobilized. National Guard units were ordered on to the scene before dark. More than 100 State Police were moved in. The entire area was placed under complete guard. Police, fire department, and public works personnel worked around the clock. Trucks, axes, flashlights, stretchers, and other necessities were moved in by Civil Defense together with their personnel. The Red Cross and the Salvation Army, assisted by thousands of volunteers, moved in to aid the injured, the homeless, and the confused victims of the tragedy. Canteens were set up to furnish food and drink not only for the unfortunate but for the personnel who worked without thought of rest or self. The injured were rushed to hospitals. The shelter of the Armory, Worcester Polytechnic Institute, Holy Cross College, and other institutions, as well as the homes of hundreds of private families, were offered for the temporary housing and comfort of the refugees. Worcester Municipal Auditorium was made headquarters for disaster relief, where clothing, supplies, furniture, and other immediate needs soon piled up. The heart-warming experience of viewing the sacrifice and selflessness of the ordinary person was stimulating and made one sense the tremendous reservoir of sympathy and service which is inherent in the American people. Nothing was too hard or too much. Blood banks were set up and were soon crowded with donors. Weary hours of searching through ruins, providing necessities and caring for others were commonplace duties.

(Continued on page 318)

Trailers from all parts of the country were set up in empty lots or on the site of damaged homes to house those whose homes were damaged (above). Large brick smokestacks were toppled in the tornado, but concrete and brick structures remained structurally sound. Interiors were badly damaged by wind and debris, and roofs were torn off, but damage was not as great as to wooden dwellings.

Marvin Richmond

THE INSTITUTE GAZETTE

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Administrative Appointments

THE appointments of Admiral Edward L. Cochrane, '20, as Vice-president for Industrial and Governmental Relations, and of Professor C. Richard Soderberg, '20, as Dean of the School of Engineering at M.I.T., were announced on March 4 by James R. Killian, Jr. '26, President of the Institute. The appointments became effective on April 1.

In the new post of Vice-president for Industrial and Governmental Relations, Admiral Cochrane, who has been Dean of Engineering since 1952, will be concerned with the whole range of the Institute's responsibilities to industry and government. He will serve to co-ordinate and to give administrative support to the special research and advisory activities at the Institute undertaken for industry and government, both national and local, and he will assist the president in discharging the executive responsibilities for this program. He will be a member of the Institute's Corporation.

Dr. Soderberg, who succeeds Vice-president Cochrane as Dean of Engineering, is widely known in the field of applied mechanics and is internationally recognized as an authority on turbine design. Before coming to the Institute in 1938, Dr. Soderberg was manager of the turbine division of the Westinghouse Electric Corporation. He has been head of the Department of Mechanical Engineering at M.I.T. since 1947.

In announcing the two appointments, President Killian said:

The Institute's growth and its enlarged responsibilities for public service require a further division and re-definition of administrative responsibility. Creation of this new vice-presidency will permit Julius A. Stratton, '23, who is Vice-president and Provost, to devote his primary attention to the Institute's educational program and will greatly assist me in handling the administrative aspects of the Institute's relations with industry and government.

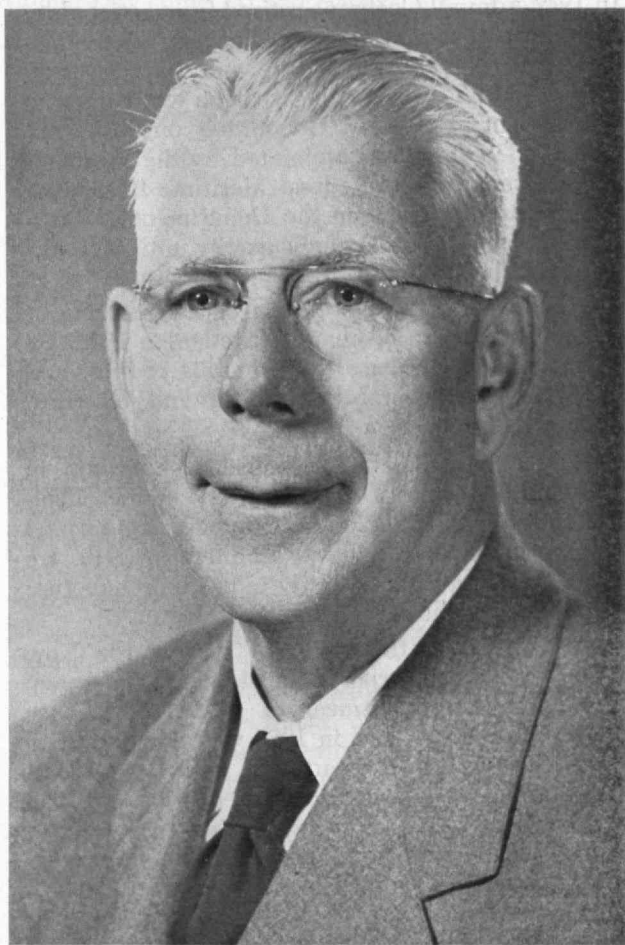
Admiral Cochrane is recognized as a distinguished engineer and administrator in both maritime and educational fields. He has made outstanding contributions to defense, to the public service and to education.



M.I.T. Photo

Edward L. Cochrane, '20

Vice-president for Industrial and Governmental Relations



M.I.T. Photo

C. Richard Soderberg, '20

Dean of the School of Engineering

The Institute is also most fortunate in having available so distinguished a teacher and engineer as Professor Soderberg to be Dean of the School of Engineering, the largest of the Institute's five schools.

Vice-president Cochrane will have administrative responsibility for the Division of Industrial Cooperation, the Division of Defense Laboratories, and for the Industrial Liaison Office. He will be chairman of an administrative co-ordinating committee for the Lincoln Laboratory, the members of which will include: Professor Albert G. Hill, Director of this Laboratory; the Vice-president and Provost; the Director of the Division of Defense Laboratories; and the President.

After studying at the University of Pennsylvania from 1909 to 1910, Admiral Cochrane entered the United States Naval Academy and was graduated with distinction in 1914. He did graduate work in naval construction at the Naval Academy and also at M.I.T., where he received the degree of master of science in 1920. During World War I, and from 1920 to 1924, he was assigned to the Philadelphia Navy Yard. From 1924 to 1929 he was assigned to the Bureau of Ship Construction and Repair.

He was named chief of the Bureau of Ships, with the rank of rear admiral, in 1942, became a vice-admiral in 1945, and the following year was appointed chief of the Navy Materiel Division of the Office of Assistant Secretary.

In 1947 Admiral Cochrane retired from active duty in the Navy to assume the duties of head of the Department of Naval Architecture and Marine Engineering at M.I.T. In the same year he was named to the President's Advisory Committee on Merchant Marine. In 1950 he was appointed by the President to be chairman of the Federal Maritime Board and Maritime Administrator in the Department of Commerce. He served in this dual capacity until October, 1952, when he became M.I.T. Dean of Engineering.

Dr. Soderberg, the new Dean of Engineering at M.I.T., was born in Ulvohamn, Sweden, in 1895. He has had wide experience, both in this country and abroad, in the general mechanical and electrical problems of large power machinery.

After studying at the Technical Gymnasium in Harnosand, Sweden, Dr. Soderberg entered Chalmers Institute of Technology in Göteborg, from which he was graduated as a naval architect in 1919. He spent a year in advanced study in naval architecture at M.I.T., where he received an S.B. degree.

After a year on the technical staff of the New York Shipbuilding Corporation, he joined the heavy traction railway department of the Westinghouse Electric Corporation and in 1924 was transferred to the power engineering department, where he specialized in problems of large turbine generators. In 1928 Dr. Soderberg returned to Sweden for two years to undertake development of large turbine generators for the Swedish General Electric Company. He returned to Westinghouse in 1930, was appointed in 1938 to the Institute staff as professor of applied mechanics, became professor of mechanical engineering in 1942, and head of the Department in 1947.

Faculty Changes

THREE appointments to the Faculty of the Institute have been announced. After serving as president of Antioch College for five years, Douglas M. McGregor returns to the Institute next July to accept the post of professor in the School of Industrial Management. Leo R. Sario has been named visiting associate professor in the Department of Mathematics, and William J. McGill was appointed assistant professor of psychology in the Department of Economics and Social Science.

Dr. McGregor was a member of the M.I.T. Faculty from 1937-1948. He is a graduate of Wayne College and Harvard University; and, during his years with M.I.T.'s Department of Economics and Social Science was promoted from instructor to full professor of psychology and director of the Industrial Relations Section.

Dr. Sario is a native of Finland and received the degree of doctor of philosophy at Helsinki University, where he was a teacher before coming to the United States in 1950. The following two years he served at the Institute for Advanced Study in Princeton, and from 1952-1953 was a research fellow at Harvard University. Dr. Sario has published extensively in the field of Riemann surfaces.

Dr. McGill, formerly a staff member of M.I.T.'s Division of Industrial Cooperation and a part-time instructor in psychology, received the degrees of bachelor of arts and master of arts at Fordham College. In 1953 he was awarded the degree of doctor of philosophy by Harvard University. Dr. McGill served as an instructor at Fordham College from 1947-1948 and at Boston College from 1948-1949, and was a teaching fellow at Harvard University from 1949-1950.

Recent resignations include: Lawrence B. Arguimbau, Associate Professor of Electrical Communications; Reinhardt Schuhmann, Jr., '38, Associate Professor of Metallurgy; and Charles W. Steinmetz, instructor in the Department of Modern Languages.

Bibliodynamics

BIBLIODYNAMICS — The Charles Hayden Memorial Library, a 16-millimeter color sound motion picture just completed by the Library, received its first preview showing before James R. Killian, Jr., '26, President of the Institute, and Karl T. Compton, chairman of the M.I.T. Corporation, and others on January 19, 1954.

Narrated by Paul M. Chalmers, Associate Director of Admissions, the script was prepared by Miss Margaret P. Hazen and other members of the Library staff, assisted by Walter L. Milne of the Institute's News Service. Photography and sound recording were by Oscar H. Horovitz, '22, an amateur cinematographer of international reputation, who also directed the film with the assistance of Robert E. Booth, Associate Librarian. Musical score was taken from a tape recording played at the Library dedication.

This is one of the first color sound films recorded on a magnetic sound strip that has subsequently been converted into an optical color sound print.

Class Reunions

In the main, classes to hold reunions this year will be those whose numerals end in four or nine. Presented below is the information available to date on the locations and dates for these gatherings.

- 1894 Reunion on campus at M.I.T. Samuel C. Prescott, Secretary, Room 16-317, M.I.T., Cambridge.
- 1899 June 11-13. Burton House, M.I.T., Cambridge. Burt R. Rickards, reunion chairman, 381 State Street, Albany 10, N.Y.
- 1900 June 15-17. The Pines, Cotuit, Mass. Elbert G. Allen, Secretary, 11 Richfield Road, West Newton 65, Mass.
- 1904 June 11-13. 50th reunion at Oyster Harbors Club, Osterville, Mass. Carle R. Hayward, reunion chairman, Room 35-304, M.I.T., Cambridge.
- 1909 June 11-13. Chatham Bars Inn, Chatham, Mass. Francis M. Loud, reunion chairman, 351 Commercial Street, Weymouth 88, Mass.
- 1912 June 11-13. Snow Inn, Harwich Port, Mass. Frederick J. Shepard, Jr., Secretary, 31 Chestnut Street, Boston, Mass.
- 1914 June 19-21. Sheldon House, Pine Orchard, Conn. Charles P. Fiske, reunion chairman, 1775 Broadway, New York 19, N.Y.
- 1916 June 11-13. The Treadway Inn (formerly Coonamessett), North Falmouth, Mass. Ralph A. Fletcher, Secretary, Box 71, West Chelmsford, Mass.

- 1919 June 11-13. Wentworth by the Sea, Portsmouth, N.H. Wilfred O. Langille, reunion chairman, Diehl Manufacturing Company, FINDERNE, Somerville, N.J.
- 1924 June 11-13. Sheldon House, Pine Orchard, Conn. George W. Knight, reunion chairman, 36 Arden Road, Watertown, Mass.
- 1929 June 11-13. 25th reunion at Baker House, M.I.T., Cambridge. Walter H. Gale, reunion chairman, Room 3-207, M.I.T., Cambridge.
- 1934 June 11-13. Wentworth by the Sea, Portsmouth, N.H. Carl H. Wilson, reunion chairman, 79 Damon Avenue, Melrose 76, Mass.
- 1939 June 11-13. Snow Inn, Harwich Port, Mass. Oswald Stewart, 2d, reunion chairman, 36 Pleasant Street, Marblehead, Mass.
- 1944-2 June 11-13. Hotel Curtis, Lenox, Mass. Henry C. Bourne, Jr., reunion chairman for 1944-2, Room 10-119, M.I.T., Cambridge. F. Scott Carpenter, Jr., reunion chairman for 1944-10, 39 Middle Street, Hingham, Mass.
- 1949 June 12-13. Chatham Crest, Chatham, Mass. Archie H. Harris, 3d, reunion chairman, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge.

Please contact your class secretary or reunion chairman for the latest plans on your class reunion. Advance notice of attendance will assist in planning Alumni Day (June 14) and class reunion events.

Sophomore Composer

THE first performance anywhere of an original march by Andrew F. Kazdin, M.I.T. sophomore from Larchmont, N.Y., was the concluding work in a performance by the M.I.T. Concert Band at Tufts College on Friday, March 12. In addition to Kazdin's composition, *Marche Baroque*, the program included the *Military Symphony in F* by Gossec, the *First Suite in E Flat* by Holst, and other works by Milhaud, Piston, and Perschetti.

The 50-piece M.I.T. Concert Band was under the direction of John Corley. Its performance, sponsored by the Tufts College Department of Music, was held in the Henry Clay Jackson Gymnasium on the Tufts campus in Medford, and was open to the public with no admission charge. Members of the M.I.T. Band were entertained at a dance following the concert.

Chairman, Freshman Advisory Council

NORMAN C. DAHL, '52, Assistant Professor of Mechanical Engineering at M.I.T., has been named to the chairmanship of the Institute's Freshman Advisory Council, it was announced in March.

Professor Dahl assumed his new duties on March 6 at an all-day meeting of the Council. He succeeds Professor Francis Bitter of the Physics Department, who had been head of the advisory group since it was established in 1952 to further close student-faculty relationships and to help students develop in professional competence.

R. H. Robnett: 1905-1954

RONALD H. ROBNETT, Associate Dean of the School of Industrial Management since 1952, passed on at his home in Winchester on February 16. A native of Salem, Ore., where he was born in 1905, Dean Robnett was educated at the University of Oregon, from which he was graduated with the degree of bachelor of science in 1928. He remained at the University of Oregon for four years as assistant graduate manager. He took up graduate work at Harvard University, receiving the degree of master of business administration in 1934, the year in which he joined the staff of the Institute as an assistant in the Department of Business and Engineering Administration. He became assistant professor in 1937, associate professor in 1942, and professor of accounting in 1947. Before becoming associate dean he had served as fiscal officer of the Division of Industrial Cooperation at M.I.T.

Dean Robnett was a member of the Institute's Committee on Educational Survey from 1947-1950 and in 1947 was a member of the Advisory Board on Relationships of the Atomic Energy Commission with its contractors. In 1948 he served on the Advisory Committee Research and Development Contracts of the Department of the Army and in the following year was consultant to the chairman of the Research and Development Board of the Department of Defense.

A member of the National Association of Cost Accountants, Boston Chapter, Dean Robnett had been a director of that organization since 1937.

Council Comments

As President of the Alumni Association, Horatio L. Bond, '23, opened the 301st meeting of the Alumni Council at the M.I.T. Faculty Club on March 1, at which 103 guests and members were present. As Secretary, Donald P. Severance, '38, reported on the success of the Midwinter Meeting (as reported on page 253 of the March, 1954, issue of *The Review*); enumerated two changes in class affiliations; reported that between January 19 and February 9, an even dozen M.I.T. Clubs as remote as Havana, Knoxville, St. Louis, and Schenectady, had been visited by 19 members of the Technology Faculty and staff.

Also recorded was the action of the Executive Committee in voting a change in alumni dues and subscription rates to *The Technology Review*.

The Executive Committee voted to recommend to the Council that Article VII, Section 1, of the Bylaws be amended by substituting "four dollars (\$4.00)" in place of "three dollars (\$3.00)" in the first sentence, and "\$4.00 or more" in place of "\$3.00 or more" in the second sentence, so that Article VII, Section 1, as amended shall read:

The annual dues, including subscription to *The Technology Review*, shall be four dollars (\$4.00) for all types of members of the Association, other than Honorary or Life Members.

Any member who in any year has made a contribution to the Alumni Fund of \$4.00 or more shall thereby have paid his dues to the Alumni Association for that year.

It was further recommended that action be taken at the April 26 meeting of the Council according to Article X of the Bylaws. This article provides that the Bylaws may be amended at any time by a majority vote of the full membership of the Council, provided thirty days' notice has been given through publication in *The Review* or by mail to the full membership of the Council.

Also reported was action of the Executive Committee on May 26, 1952, in appointing Leicester F. Hamilton, '14, Harl P. Aldrich, Jr., '47, and Hugh S. Ferguson, '23, chairman, to serve on a committee to study the status of graduate students at M.I.T., whose undergraduate training was received elsewhere. This committee was charged with the responsibility of recommending ways of providing more effective participation in matters relating to M.I.T. and the Alumni Association. The committee's recommendation was accepted with appreciation by the Council, but is of sufficient importance that it will be reported in substantial detail in a forthcoming issue of *The Review*.

Raymond H. Blanchard, '17, chairman of the National Nominating Committee, presented the slate of nominees listed in the March, 1954, issue of *The Review*, and Henry B. Kane, '24, as Alumni Fund Director, reported that, as of March 1, a total of 7,915 Alumni had contributed \$181,945 to the Alumni Fund for the current year.

President Bond next introduced the nominees for office in the Alumni Association who were present, members of the M.I.T. Corporation, past presidents of the Association, and others at the head table. He then asked James R. Killian, Jr., '26, President of the Institute, to address the Council.

Dr. Killian spoke briefly on the day's Corporation meeting and the several Departmental Visiting Committees falling in the period of February 27 to March 4. In this connection he cited the profound part that some of the Visiting Committees have played, a success probably unmatched at any other college. The Council can be proud of that record, for two members of each Visiting Committee are nominated by the Association, and some or all Corporation members of the Committees may also include Alumni.

Dr. Killian next spoke of the undergraduate admissions outlook for next fall. Applications for admission are 32 per cent ahead of a year ago, and it is estimated that there will be 2,400 final applications from which the freshman class of 900 will be chosen. As most college applicants submit their credentials to several colleges, the Institute can expect a considerable attrition from the group initially admitted. Another significant trend is that the Institute has received twice as many applications for scholarships as two years ago.

Professor Arnold Tustin, the first Visiting Webster Professor of Electrical Engineering, compared the effect of the invention of the electron tube on the electrical engineering industry to the effect of the new hormone weed killers on weed and plant. In the latter case, the weeds grow better, but this starves the root which withers, and the plant dies. Since the advent of the electron tube, industry has sprouted radio, television, radar, guided missiles, automatic control, and so forth. It is Tustin's concern that this has diverted to these new fields much of the vitality of the longer-established branches of the electrical industry.

It is his observation that throughout universities in Europe and in the United States today one finds everywhere teachers and students active and enthralled in every variety of study and development in electronics; but almost no new work, almost no research and, most significant of all, very little enthusiasm in the fields of electrical power supply, power utilization and application and machine development is to be seen. The question therefore arises of whether some steps ought now to be taken to insure no falling off of progress, and the prompt exploitations of new technical possibilities in these fields.

Antoine M. Gaudin, Richards Professor of Mineral Engineering, presented a four-point program for assuring this country a supply of metals and minerals adequate to satisfy its increasing industrial appetite. The first need is for finding more mineral deposits. Dr. Gaudin recommended appreciable expenditures for geophysical prospecting on a long-range, national scale. It is not in the least uncommon to have 10 or 15 years elapse between the discovery of a major ore body and the first full-scale utilization of it.

The making of ore out of what is now waste, or what might become waste, by improving the methods of processing was Professor Gaudin's second point. Wasting less of the material may eventually prove to be an important part of any mineral and metal policy for this country.

The increasing of imports of minerals and metals by protecting American capital and know-how in foreign lands was Professor Gaudin's fourth point. It seems apparent that we shall always depend somewhat on foreign sources for certain of our minerals.

BUSINESS IN MOTION

To our Colleagues in American Business . . .

Recently a manufacturer who planned to make a new electric coffee percolator came to Revere with a variety of problems. The first concerned the selection of a metal which would assure a quality product, yet be capable of economical fabrication in his plant. A Revere Technical Advisor consulted with the company's design engineers, and recommended copper in a temper suitable for deep drawing. The suggestion was based on the fact that this metal is ideally suited because of its excellent forming characteristics, the fine finish obtainable, and the ease with which it can be plated.

In order to give further assistance in the development of the new product, a thorough study was made of the customer's production equipment. It was pointed out that there were several possible methods of making the percolator body. Mutual analyses pointed out the best of these. This activity was especially appreciated, because the manufacturer had previously done little with copper, having worked chiefly with aluminum. Both metals, of course, can be put through the same equipment, but since they have different characteristics, switching from one to the other requires special consideration of such matters as tooling, annealing, and finishing.

During the period of trial runs and initial production Revere continued to work closely with the customer. Today the percolator is used daily in the homes of a growing number of satisfied owners. The

fact that the manufacture of this new product started so smoothly and quickly was due in large part to the desire of the customer to collaborate completely with the Technical Advisory Service, and take full advantage of our experience and knowledge.

First Revere contact was with the Purchasing Department. That is standard procedure. Subsequently it was made possible for us to work with the design and tool engineers, methods engineers and production supervisors, in fact with practically everybody who had a position of responsibility in regard to the new product.

Some Revere customers ask only for Revere Metals; others, as in this case, seek our engineering and production know-how, obtained over many years in the field. Our special technical services, please understand, are not billed; they are a part of our contribution to the welfare of American industry, with which our own welfare is so inter-woven. Naturally, such

services are provided on a confidential basis, and trade and production secrets are respected.

Suppliers to every industry are just as eager as is Revere to win fast friends and loyal customers. Therefore it is suggested that no matter what materials you buy, nor what you produce from them, you take your suppliers into your full confidence. Adding their knowledge and skill to yours should pay you well, at no extra cost.



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ATMOSPHERIC POLLUTION

(Continued from page 296)

Connecticut Valley and the expenses shared by these towns and cities and by the Commonwealth.

The citizens of Holyoke who live along the river petitioned their own Board of Health to alleviate the smoke nuisance caused by various plants located in their city. Controlling the nuisance at its source would not only benefit the people living in Holyoke but also those in Chicopee. The survey pointed out to the Holyoke Board of Health those plants that were the chief offenders, with photographs and laboratory data presented as proof. Through co-operation of the Board of Health, the mayor, and the press, proper and sufficient pressure was brought to bear on these plants. To date, some of these plants have spent considerable amounts of money in correcting the condition causing the nuisance and have installed the latest fly ash arresting equipment.

Occasionally, a temporary change in a plant process or in power-house equipment may result in conditions which will cause or aggravate a nuisance hazard and result in subsequent complaints by the public. Recently, at the request of the Board of Health of Maynard, we investigated complaints by people living in Maynard that fly ash or cinders were being deposited in great quantities on their properties. A local woolen mill, which was the only plant in the town, was found to be the source of this atmospheric pollution. The homes of the complainants lay in the path of the prevailing wind. Laboratory tests substantiated the fact that the material came from the stacks of the woolen mill's power plant. The plant officials advised that during the past winter the company had started converting three of their five furnaces, so that oil could be used as a fuel. In order to maintain the required heat output during the conversion period, it was necessary to overload two of these coal-fired furnaces most of the time. The power plant engineer advised that this forcing of the furnaces resulted in an excessive amount of smoke, soot, and fly ash being discharged from the stacks. Formerly, the usual procedure was to use four coal-fired furnaces during the winter months; however, because of the changes made, only two coal-fired furnaces could be used. Conversion was completed a few weeks after our survey had been made. No further nuisance complaints were received by the local Board of Health.

Sometimes when the officials of industrial plants are made cognizant of the fact that their plants are guilty of atmospheric pollution, they plead that the cost of correcting or even alleviating the causative conditions and the time involved would be prohibitive and might force them to move their plant elsewhere. Are they justified in taking this stand in maintaining the *status quo*? Based on precedent alone, public health is considered of greater importance. The U.S. Supreme Court has issued the following opinion on smoke abatement:

So far as the Federal Constitution is concerned, we have no doubt that the state may, by itself or through authorized municipalities, declare the emission of dense smoke in cities or populous neighborhoods a nuisance and

(Continued on page 312)

DRAPER

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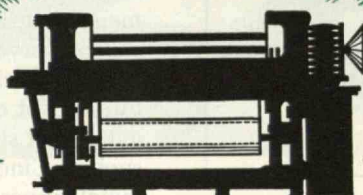
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ATMOSPHERIC POLLUTION

(Continued from page 310)

subject to restraint as such; and that the harshness of such legislation or its effect upon business interests, short of a merely arbitrary enactment, are not valid constitutional objections. Nor is there any valid Federal Constitutional objection in the fact that the regulation may require the discontinuance of the use of property or subject the occupant to large expense in complying with the terms of the law or ordinance.

The development of water supplies, sewage disposal, and sanitation facilities has worked hardships on some to the ultimate benefit not only of the majority, but those who have been subjected to inconvenience and monetary loss. By making a thorough investigation of the causes of the atmospheric pollution, it may be found that instead of an expenditure of large amounts of money or time, that by a rearrangement or change in process, by improvement of firing and furnace tending, by the control of contaminants at their source, there would result a loss of less salvageable material and fuel, so that the necessary improvements would result in more efficient operation and lowered production costs.

Several cities, including St. Louis, Niagara Falls, and Pittsburgh, have set up elaborate smoke abatement programs, while other towns and cities have started surveys which may result in timely legislation for the elimination or reduction of atmospheric pollution. Not only is the smoke nuisance being investigated, but studies are being conducted in some cities, such as Cincinnati, to determine the concentration of metal fumes, fluorine, and sulfur dioxide in the city atmosphere, and the concentration of carbon monoxide in light, medium, and heavy traffic areas. Surveys seem to indicate that the greatest seasonal atmospheric pollution is found during the cold winter months and that the greatest daily contamination is usually found during the early morning.

A survey made to determine the degree of atmospheric pollution should be under the supervision of a qualified engineer. The engineer with his background should be cognizant of what equipment is necessary to determine the concentration of the atmospheric contaminants. Air sampling devices, as used in the determination of atmospheric pollution in working areas within the plant, may be adapted for measuring the amount of pollution in the air outside of the plant.

Smoke nuisance surveys should include soot-fall studies using deposit gauges. For the measurement of atmospheric pollution an apparatus called the Stand-

(Continued on page 314)

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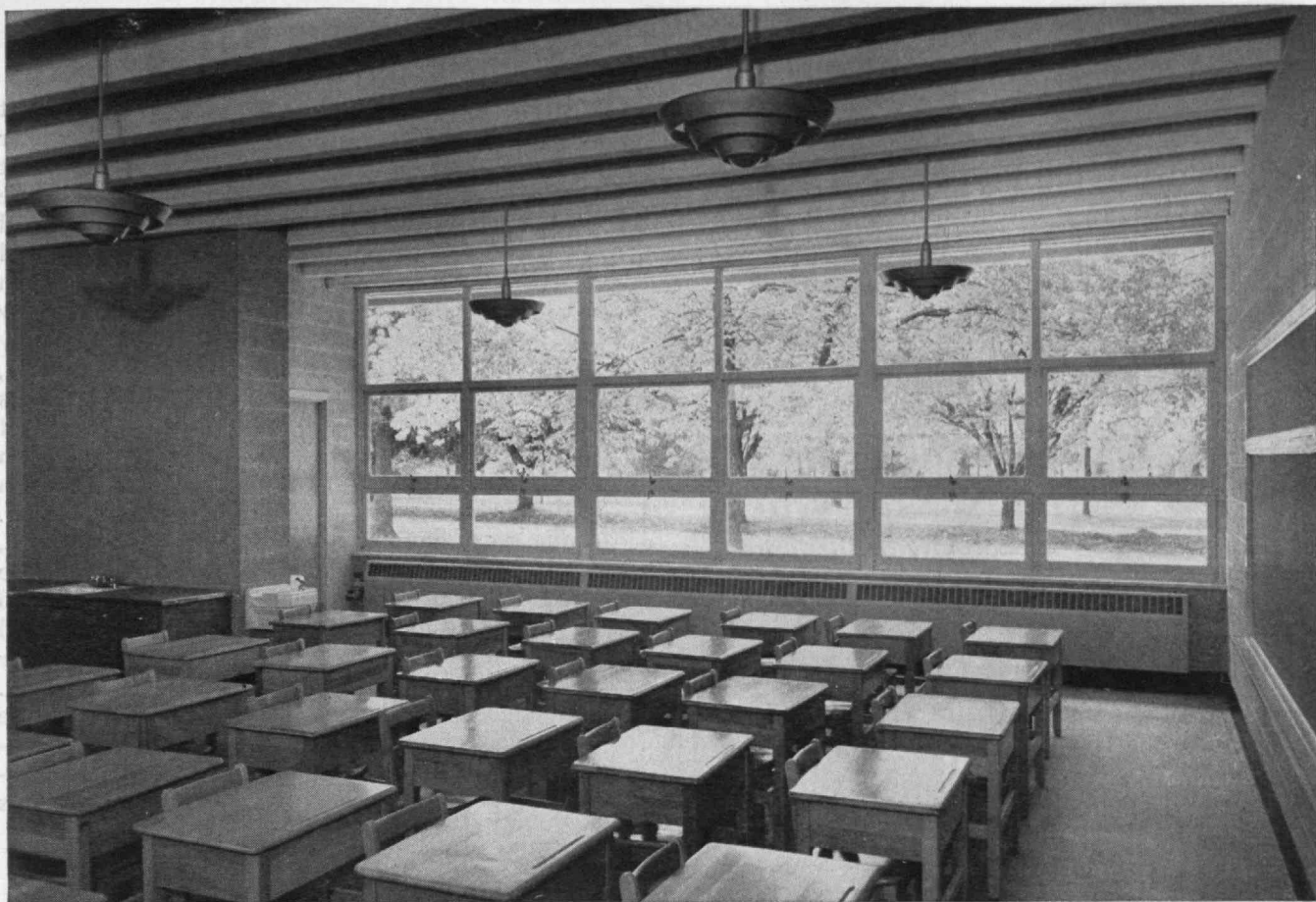
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ATMOSPHERIC POLLUTION

(Continued from page 312)

ard Deposit Gauge is in general use in England. It consists of a glass basin 30 centimeters in diameter resting on an iron stand and raised about four feet above the ground. An aperture in the bottom of the basin is connected to one or more large bottles, placed underneath, which receive both the rain water and the deposit which falls into the gauge. Once a month the material collected in the bottle is separated by filtration into soluble and insoluble matter and may be further analyzed for carbonaceous constituents, ash, tar, ammonia, sulfates, and chlorides. The results may be expressed in tons per square mile. The deposit gauge as used in our country consists of a wide mouth jar about eight inches high. Approximately one inch of distilled water and glycerine is placed in the jar. A number of these jars are then placed on roof tops, open lots, hills, and other locations where they will be free from wind eddies. Stands should be provided to hold the jars at least three feet above the ground level. Samples are collected monthly. A pilot jar should be kept by the engineer as a low-water alarm.

One method of determining the intensity of smoke is by means of the Ringelmann Chart. This chart consists of black cross lines of a certain thickness and distance from each other forming varying white squares between them. The sizes are:

Number	Smoke	Lines	Thick- ness	Spaces	Width
0	None			All White	
1	Light Gray	Black	1 mm.	White	9 mm.
2	Dark Gray	Black	2.3 mm.	White	7.7 mm.
3	Very Dark Gray	Black	3.7 mm.		6.3 mm.
4	Black	Black	5.5 mm.	White	4.5 mm.
5	Very Black	All Black			

The chart is hung on a level with the eyes, about 50 feet from the observer, as nearly as possible in line with the chimney. The engineer glances from smoke to chart and notes the corresponding number, recording the number and time of observation. Repeat observations are made at one quarter to one half minute intervals. From these records the average density may be determined for each hour or for each day. Experienced observers often record in half-chart numbers. The Metropolitan Boston Smoke

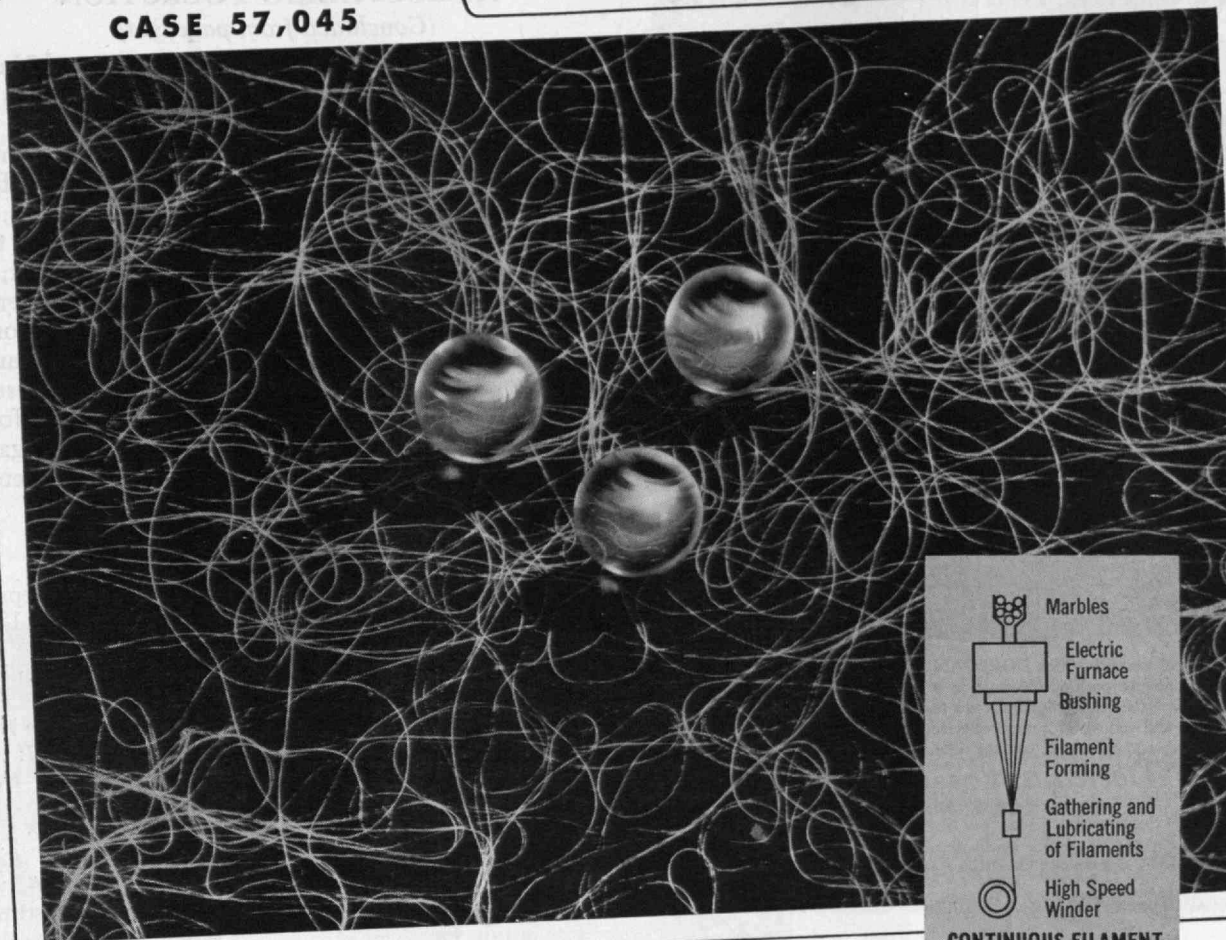
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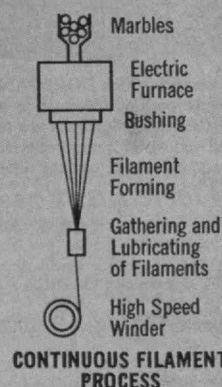
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ATMOSPHERIC POLLUTION

(Concluded from page 314)

Abatement Commission allows Number 2 and Number 3 smokes for a period of three to six minutes in any one hour, depending on stack classification.

In presenting some aspects and incidents of atmospheric pollution by dust, fumes, and gases, an effort has been made to define some of the basic terms; to stress the importance of atmospheric pollution to the public, to government, and to plant management; to present some incidents and problems encountered while in contact with the public; and to describe some of the methods of survey and elimination of the cause for complaint. An endeavor has been made to present the problem in its true light so that further efforts will be expended by all concerned to investigate, study, and to help control or eliminate the factors causing pollution of the air we breathe.

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(Continued from page 304)

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In this story of man's humanity to man the efforts of the members of the Worcester Housing Authority and its able staff must be singled out for particular attention, not only for their prompt, organized, and incessant work immediately following the disaster but for their devotion to their duty to rehouse the temporarily homeless families and to move quickly, so that these unfortunate people might get back into their homes by repairing the damage before inclement weather. The personal risks taken by some of these people, far beyond the call of duty, are significant. David M. Hayes, Assistant Executive Director of the Authority, even though injured by the collapse of a section of a brick wall on his car (which embedded pieces of glass in his skull), and entirely oblivious to his own welfare, rushed into nearby buildings of the Curtis Apartments telling the occupants to get under cover and not to light matches. He found a live telephone and called police, fire and public utilities to prompt them into immediate action. Raymond P. Harold, '23, Chairman of the Authority, while on his way to Holden saw houses smashed and wires and trees down, went immediately to the scene but had to abandon his car because traffic had become hopelessly snarled. He too searched for a telephone, found none, then was able to flag down the first car that came along and proceeded to Great Brook Valley Gardens.

Colonel Joseph T. Benedict of the Air Force Reserve, and Executive Director of the Housing Authority, was waiting for a call from Mrs. Benedict to take him to North Worcester when a friend informed him of the terrible happenings in North Worcester. When his wife came, they immediately headed for the housing project area. The area was a shambles; people were wandering around dazed and injured. All about them were dead, dying, and injured — with the ambulances and police trying to master the situation. Benedict made his way to the administration office where he found Harold had already given instructions for setting up a first aid station. Harold immediately ordered the setting up of a trailer campsite on the site of the nearby Lincolnwood development which had been completely demolished. Then he and Laurence H. Fisher, Assistant Secretary of the Authority, at their own expense set out on a 4,000-mile, week-end airplane trip to expedite the shipment of trailers to

(Continued on page 320)

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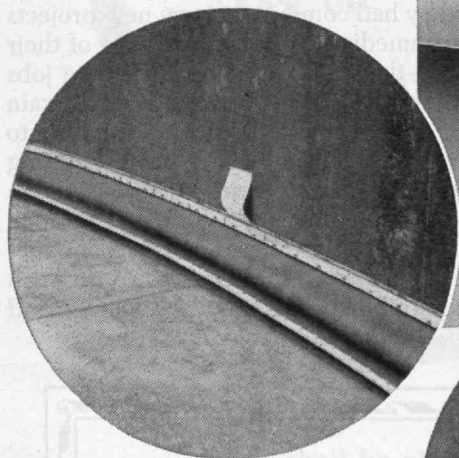
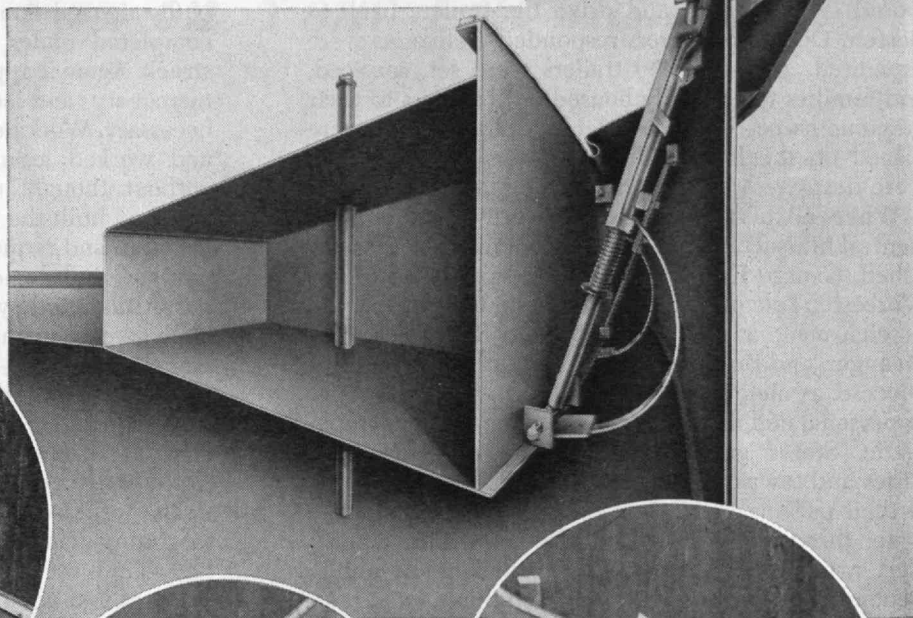
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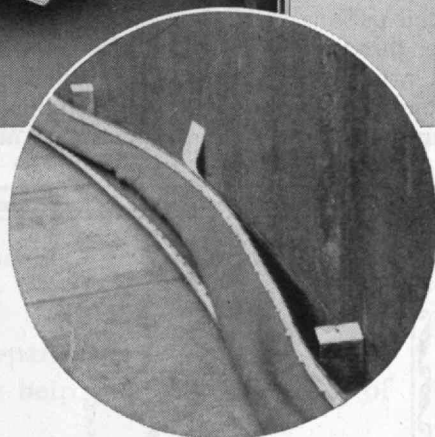
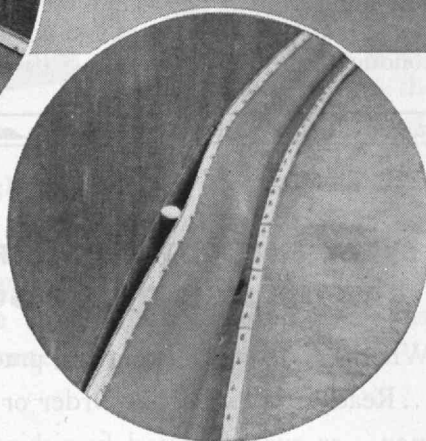
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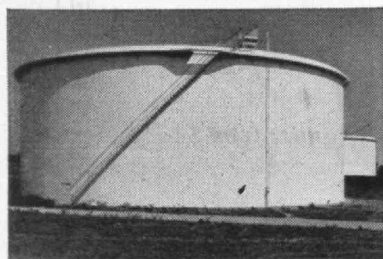


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TORNADO IN NEW ENGLAND

(Continued from page 318)

Worcester, not being satisfied by the promise given them through the usual channels of communication.

They visited Wichita, Kan.; St. Louis, Mo.; Dallas, Tex.; Atlanta and Augusta, Ga.; and Aiken, S.C., where trailers were reported as available. Soon trailers were rolling toward Worcester, but not fast enough to satisfy Harold. He sent out a call for drivers who would go to Kansas and drive the trailers back to Boston. Dozens of drivers responded, deliveries were expedited, and soon 450 trailers were set, serviced, and families temporarily housed until repairs to their previous homes were completed. Some trailers were placed on the land of home owners whose houses were destroyed, so that they too might have shelter.

While all of these activities were going on, the Central Massachusetts Disaster Committee was established. George F. Booth, editor and publisher of the Worcester *Telegram* and the *Evening Gazette*, served as chairman, and Everett F. Merrill, former City Manager, and Bishop John J. Wright of the Worcester Diocese, as members. Through their efforts the relief of personal and financial loss was prompt and sympathetic. Stores gave clothing, food, and furniture. Cities and towns in Massachusetts gave the proceeds of their parking meters for long periods of time. The State, through the efforts of Governor Christian A. Herter, made additional funds available. The public responded generously with funds, clothing, food, temporary housing, and offers of assistance in conducting

the work. By late fall of 1953 nearly \$2,000,000 had been raised for relief. To this the Red Cross expended unknown sums for both material and financial relief. The insurance companies came to the immediate relief of those affected, setting aside usual procedures.

While the activities directly following the disaster have been generally known, very little is publicly known about the contributions made by many agencies and groups because of the continued concern of the Worcester Housing Authority to rehabilitate the badly marred housing projects which had just been completed under their charge before the tornado struck. Again it appeared that usual methods were too mercenary and self-seeking to provide what was necessary. Workmen deserted their usual employment and worked around the clock, in many instances without thought of remuneration. The contractors who had built the original projects were immediately called in and requested to move promptly toward repair and replacement of destroyed or impaired facilities. Although they had commitments on new projects elsewhere, they immediately brought in many of their men and much of their equipment from remote jobs for immediate action. In many cases they again worked around the clock under heavy pressure to meet, as soon as possible, the objective of the Housing Authority to get families into their houses.

The insurance companies, both stock and mutual, took immediate steps to provide funds for reconstruction. They set aside their usual procedure, in such cases, of first determining the amount of damage and

(Concluded on page 322)



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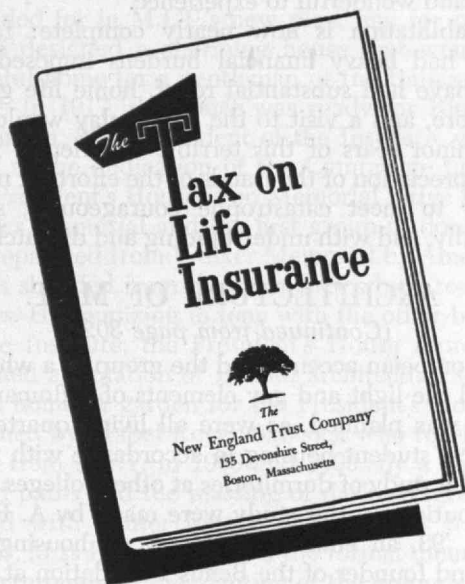
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TORNADO IN NEW ENGLAND

(Concluded from page 320)

then negotiating for a complete settlement, realizing that the use of the time consumed by this procedure was incompatible with the speed required. Instead they made substantial sums available at once and added to these from time to time, to allow for the payment of the necessary costs of reconstruction, while negotiation on the extent of damage and their liability were going on continually, but not impeding progress. The willingness to compromise, the honest desire to do the fair thing, and the acceptance of the incidental sacrifices on the part of all were stimulating and wonderful to experience.

Rehabilitation is now nearly complete: families which had heavy financial burdens imposed upon them have had substantial relief, home life goes on as before, and a visit to the area today would show only minor scars of this terrible experience. Left is the appreciation of thousands of the efforts of modern society to meet catastrophe courageously, sympathetically, and with understanding and dispatch.

ARCHITECTURE OF M.I.T.

(Continued from page 302)

with Pompeian accents, and the group as a whole exhibited the light and gay elements of a Roman villa. But it was planned, as were all living quarters, for practical student housing in accordance with the results of a study of dormitories at other colleges. Major contributions to this study were made by A. Farwell Bemis, '93, an eminent authority on housing problems and founder of the Bemis Foundation at M.I.T.

The dormitory group has six stories and a two-story loggia above the main building. From this loggia arches open into rooms described as "dens, attractive probably to students in architecture, small in comparison with the other rooms and for the moderate purse." The dormitory itself is L-shaped, a plan that allows sunlight to penetrate all sleeping rooms, for in designing this group sun and shadow were studied in relation to room arrangement.

In 1924, the second dormitory, designed by Bosworth as part of a quadrangle, was built north of Walker. While less elaborate than the first, Bemis dormitory is a plain rectangular building planned to form the central section of the east wing of a quadrangle. Its walls of cream-colored brick are broken by fluted pilasters and the doorways suggest classic dignity. As considerable study had been made of living require-



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ments for students, the rooms provide maximum comfort and privacy without luxury. Four years later, a unit was connected to either side of this dormitory — Goodale on the north and Walcott at the south — forming a continuous structure that completed the east wing. In 1931, the architects, Coolidge and Carlson (Harry J. Carlson, '92) constructed the entire west wing — Wood, Hayden, and Munroe — of the intended quadrangle which still lacks the enclosing north and south units. This wing is almost identical in appearance with the east group of dormitories, except for the central unit which has a parapet along the roof adorned with Grecian urns.

The president, no less than the students, was also provided for in M.I.T.'s new plan, and for him Bosworth designed a charming house that would be a graceful home for a gentleman of the Italian Renaissance. In 1917, the house was ready for Richard C. Maclaurin, Sixth President of the Institute, who presided at the dedication of the Cambridge buildings. The President's House is on Memorial Drive between Walker Memorial and the first group of dormitories. It is separated from Walker Memorial by Ames Street and is shielded from the dormitories by a row of tall cedars. Harmonizing in tone with the other buildings of the Institute, the President's House represents a subdued adaptation of Roman architecture to a dignified home. A garden for the President's House was designed by Mabel Keyes Babcock who received degrees from M.I.T. in 1908 and 1909. By a pattern of paved paths and the massing of dark evergreens, accented with lighter foliage of deciduous trees and shrubs, Miss Babcock carried the formal theme of the house throughout the planting of the grounds.

With the completion of the President's House in 1917, Bosworth's work at M.I.T. was not finished; he had yet to add two buildings to the educational unit: the Pratt School of Naval Architecture and Marine Engineering, and the William Barton Rogers Building for the School of Architecture and Planning. The first of these, built in 1920, extends northerly along Massachusetts Avenue from the southwest corner of the original group and is joined to it by corridors. In style and material it is uniform with the 1916 buildings, and its main entrance on Massachusetts Avenue is similar to the doorways of Walker, but over the entrance to the School of Naval Architecture a model of a Norwegian ship in limestone symbolizes the purpose of the School. Opposite the entrance is a small lobby which serves as a naval museum where models of

(Continued on page 324)

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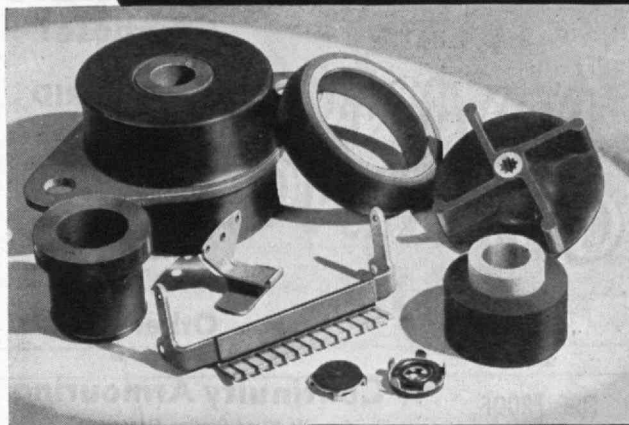
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ARCHITECTURE OF M.I.T.

(Continued from page 323)

ships are on permanent exhibition, while the remainder of the building is devoted to classrooms, offices, and laboratories.

Twelve years passed before the School of Naval Architecture and Marine Engineering was balanced on the east side of Bosworth's group by a corresponding building known as the George Eastman Research Laboratories of Physics and Chemistry. These Laboratories were constructed in 1932 from funds donated largely by George Eastman, a generous benefactor of M.I.T. The architects, Coolidge and Carlson, united the new building to the original group as a long wing of the same height as Bosworth's minor order and of the same warm-tinted stone. The classic lines of the exterior are well proportioned and the building is an integral part of the original nucleus with cornice of the same height. In order to incorporate rigidity and freedom from vibration in its construction, Eastman Laboratories were placed on nearly 3,000 piles of reinforced concrete driven into fill and organic silt that rests on a glacial drift of sand. The teak doorway leads into a small lobby lined with Italian travertine decorated with bronze medallions. Across the lobby and opposite the entrance is a lecture hall which was the finest of its kind when built. There are also laboratories, classrooms, a social room, and various special rooms designed to include the most advanced developments in equipment for teaching and research.

In 1938 Bosworth designed the William Barton Rogers Building that completed the great square begun in 1916. Bosworth planned the new building (to continue north from Naval Architecture) as an impressive entrance on Massachusetts Avenue that should proclaim the dignity, the scale, and the academic character of the Institute. Capped by a dome subordinate to the great central dome and enriched with a deep portico, the Rogers Building provides a stately introduction to the grand classic style of the main buildings. Rogers is faced with limestone so that all three buildings on Massachusetts Avenue appear as a single unit. A broad flight of steps leads to a colonnade of four massive Ionic columns and a parallel row of four engaged columns set between the entrance doors and the grillwork of the façade. Within the building, the formal character of Rogers is intensified by the size

(Concluded on page 326)

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A Report TO M.I.T. MEN

In 1917 Walker Memorial Building was opened, a gift from Alumni for the welfare of M.I.T. students. In addition to including offices for student activities and serving as a student social center, this building houses the dining service.

In 1952-53 nearly one million meals were served to staff and students and 57 dances, receptions and balls were held in Morss Hall. Morss Hall seats approximately 500 people. Thus, each chair served 2,000 people per year or 5.5 persons per day. We thank the Alumni for making these services possible.

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ARCHITECTURE OF M.I.T.

(Concluded from page 324)

and simplicity of a lobby whose height extends more than four floors to the dome. This lobby is surrounded with six tall Ionic columns that emphasize its spaciousness, for the area has been left completely free of details that would reduce its monumental effect. Main corridors extend east and south to the older buildings that are all joined to the later additions in unbroken sequence.

It is not inappropriate that the Rogers Building should be occupied by the School of Architecture and Planning. Since it was established in 1865 at the request of President Rogers as the earliest school of its kind in the country, this School played a distinguished role in education. Its library (The Arthur Rotch Memorial Library), situated on the second floor, is uncommonly well planned, incorporating in its alcove arrangement and open shelves a scheme that is happily adapted to its purpose. In designing the Rogers Building, Bosworth was assisted by Harry J. Carlson as associate architect.

Since 1908, when it built a wind tunnel to investigate the extraordinary possibilities of flight by mechanical airplanes, M.I.T. has always taken a prominent part in research and teaching in the field of aeronautical engineering.

Just 20 years after the first M.I.T. wind tunnel was built, a separate building was constructed with special facilities for instruction and experimentation in aeronautics. The cost was met by a grant from the Daniel Guggenheim Fund for the Promotion of Aeronautics. The architect, Carlson, placed the building north of those on Massachusetts Avenue and in direct line with them so that it could eventually be connected by an intervening structure. The Daniel Guggenheim Aeronautical Laboratory building faithfully follows Bosworth's classic style, and forms a far-flung wing to the buildings extending along Massachusetts Avenue. In addition to drafting rooms and classrooms, the building includes highly specialized facilities, such as a wind tunnel, laboratories for engineering work, and a library.

With the construction of the Aeronautical Laboratory the "Classic Age" at M.I.T. drew to a close, but it closed one building too soon for there is still a break in the long façade between Rogers and Aeronautics on Massachusetts Avenue.

Part II of Miss Shillaber's article, on the new era in architecture at M.I.T., will appear in the May Review.



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The "hairpin in a bottle" that burned for 40 hours in Edison's laboratory in 1879 was far more than a better light than the world had yet known. It was also the starting point for the electric utility industry, the electrical manufacturing and the electrical construction industries, that make it possible for electricity to serve us today.

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The American public now spends approximately \$1.25 annually per capita for street lighting. It is reliably estimated that the doubling of this investment in protective street lighting (another \$200,000,000) would eliminate this 1.1 billion in economic loss; that is, each \$1 additional investment in roadway lighting saves over \$5 in economic loss—plus its share in saving some 12,000 American lives.

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"... It has long been felt by many people, mostly those not in industry, that industrial ultrasonic applications would never be economical. This viewpoint was well put by W. T. Richards, writing in the *Journal of Applied Physics* for May, 1938.—"In fact, about 1932 there was a feeling in the air that anyone who manufactured anything, with the possible exception of horn buttons, was either installing a supersonic outfit or wishing he had the money for one. The chief beneficiaries of this movement were the electric power companies.—But the electrical production of sound waves is appallingly wasteful—they will be supplanted by more efficient mechanical devices." Now the fallacy in this viewpoint is the confusion of the words "expensive" and "uneconomical." These are not synonymous—a very strong case can be made for the argument that the highest priced automobile is actually the most economical in the long run. In the same sense, an industrial ultrasonic installation is still expensive, but if a necessary operation can be performed which cannot be done in any other way, if a product can be improved, if time or space can be saved, the initially expensive installation can result in long-range economy. It is in this light that any industrial process must be considered, and in which ultrasonic is gaining acceptance.

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Alumni AND Officers IN THE News

Science Symposia

M.I.T. Alumni and members of the staff who participated in the 34th annual business meeting of the American Meteorological Society during the week of January 25 in New York City are as follows: BERNARD VONNEGUT'08, ALAN C. BEMIS'30, HORACE R. BYERS'32, FRANK A. RECORD'33, RAYMOND WEXLER'39, JAMES M. AUSTIN'41, ROBERT D. FLETCHER'41, SIGMUND FRITZ'41, MAX A. WOODBURY'42, HARRISON E. CRAMER'43, THOMAS F. MALONE, 2-46, MYRON G. H. LIGDA'48, MORRIS TEPPER'48, ROBERT M. RADOS'49, RICHARD J. REED'49, ROBERT M. WHITE'49, FLETCHER BARTHOLOMEW'50, LEROY H. CLEM'50, DAVID ATLAS'51, J. LEITH HOLLOWAY, JR., '52, HERMAN LAKE'53, BERNHARD HAURWITZ, DONALD G. FRIEDMAN, ROBERT G. MILLER, GERALD C. GILL, JOHN N. CONOVER.

Appointments to the 28 technical committees and subcommittees of the National Advisory Committee for Aeronautics, for the year 1954, have been announced by its chairman, JEROME C. HUNSAKER'12. Other M.I.T. Faculty members serving on this committee are: HOLT ASHLEY, RAYMOND L. BISPLINGHOFF, RICHARD C. BOLT, C. STARK DRAPER'26, NICHOLAS J. GRANT'44, HENRY G. HOUGHTON, JR., '27, ARTHUR T. IPPEN, C. C. LIN, JOHN R. MARKHAM'18, ROBERT C. SEAMANS, JR., '42, ASCHER H. SHAPIRO'38, EDWARD S. TAYLOR'24, and GLENN C. WILLIAMS'42.

WILLIAM SHOCKLEY'36, Bell Telephone executive, will attend an International Conference on Semiconductors to be held at Amsterdam from June 29 to July 3. Sponsors of the Conference are the Netherlands Physical Society, with the support of the International Union of Pure and Applied Physics and UNESCO.

It has been announced that ROBERT RADOS'42, will be field director of research flights for data to be studied at the Cambridge Air Force Research Center. Scientists for the Cambridge research center are studying a gigantic air current, ranging over the northern hemisphere at 30,000 to 40,000 feet and capable of pushing a plane "with almost incredible swiftness."

Professional Honors

SAMUEL C. PRESCOTT'94, Professor Emeritus of Biology at M.I.T., was cited for his contributions to the canning industry in a paper written by Dr. Roger Lueck, Head of the Research Department of the American Can Company, and delivered on the occasion of the First Annual Service Award by the "Forty-Niners" at the organization's fifth annual meeting on January 22 in Atlantic City, N. J.

ORVILLE B. DENISON'11 was elected executive secretary of the Framingham Chamber of Commerce, Framingham, Mass., on March 15. Prior to his election he had been secretary-manager of the

same group for a period of nine and a half years.

The appointments of Admiral EDWARD L. COCHRANE'20, as vice-president for Industrial and Governmental Relations, and C. Richard Soderberg, Jr., '20, as dean of the School of Engineering, effective April 1, were announced by James R. Killian, Jr., '26, President of M.I.T.

LAUREN B. HITCHCOCK'20, Management Consultant of New York City, has been named president of the Southern California Air Pollution Foundation in Los Angeles, Calif.

HERMAN A. BRUSON'23, Manager of the Organic Chemical Research Department of Olin Industries, New Haven, Conn., was elected chairman of the New Haven Section of the American Chemical Society for 1954.

ARTHUR F. MEREWETHER'25 was elected president of the American Meteorological Society at the 127th National Meeting in January in New York City. The new slate of officers elected at the meeting include the following Alumni: HARRY WEXLER'39, Vice-president, and HENRY G. HOUGHTON, JR., '27, Councilor.

DAVID A. SHEPARD'26, a director of the Standard Oil Company, N.J., and a former chairman of the board of Anglo-American Oil Company (now Esso Petroleum Company, Ltd.) has recently been named 1954 chairman of the board of The Greater New York Fund.

JOHN B. WILBUR'26, Head of the Department of Civil and Sanitary Engineering, has recently been named president of the Northeastern Section of the American Society of Civil Engineers.

ROLAND FRANK BEERS'28, prominent geophysicist, Professor of Geophysics at Rensselaer Polytechnic Institute, and Director of W. and E. Gurley Company in Troy, N.Y., has been appointed a trustee of Albany Medical College, it was announced by Mr. James F. Adams, President of the College's Board of Trustees.

JAMES D. GREEN'28 has been elected a vice-president of the Northern Trust Company by the Chicago Bank's Board of Directors. He will head the Northern Trust Real Estate Division. Mr. Green, a native of Chicago, has been in the Real Estate Division since he joined the Northern Trust staff in 1934. He was elected an assistant secretary of the Bank in 1942 and a second vice-president in 1946.

MARION W. BOYER'25 and GLENN W. POORMAN'32 have been elected directors of the Esso Standard Oil Company (New Jersey) as of January 27. Mr. Boyer returned to the firm after three years as general manager of the Atomic Energy Commission. Mr. Poorman was formerly assistant to the president.

NORMAN LEVINSON'33, Professor of Mathematics at M.I.T., was recently awarded the Bocher Memorial Prize by the American Mathematical Society in recognition of his outstanding work in the important field of differential equations, both linear and non-linear. The Prize, founded in memory of Professor Maxime Bocher, is awarded every five years for notable research in analysis. The presentation was made at the Society's annual meeting at Johns Hopkins University.

JACK O. BENNETT'37, American pilot trained by the Nazis, was presented with a miniature "Freedom Bell" for his flights during the Berlin blockade and other flights to aid this Soviet-encircled city. West Berlin's Lord Mayor Walter Schreiber made the award to Mr. Bennett of Ebensburg, Pa., a pilot for Pan American World Airways. Mr. Bennett was honored for his flights of food and supplies during the 1948-1949 Berlin airlift and numerous later flights to evacuate East German refugees.

LOUIS MICHELSON'40 has received a commendation award for the second successive year for his work as technical director of the Research and Development Department of the Naval Torpedo Station, Newport, R.I. Holder of the highest civilian position at the station, he was commended for "his unique knowledge of the extremely complex subjects encountered in administering the technical program of the station and the outstanding manner in which he administered the program this year."

JOHN R. PELLAM'40 was presented with the annual physical sciences award of the Washington Academy of Sciences at the annual dinner meeting in Washington, D.C. Dr. Pellam, Chief of the Cryogenics Physics Section at the National Bureau of Standards, was cited for his many contributions in the field of physics.

ROBERT G. BRECKENRIDGE'42 has been appointed chief of the Physical Electronics Section of the Atomic and Radiation Physics Division of the National Bureau of Standards. In this position he will be responsible for the Bureau's research into solid state physics, particularly investigating the electrical properties and characteristics of semi-conducting materials and developing new materials for circuit components.

JOHN W. PEIRCE'47 has been appointed by Governor Herter to a five-year term as member of the Massachusetts Board of Registration for Architects.

PIETRO BELLUSCHI, Dean of M.I.T.'s School of Architecture and Planning, has been cited for his contributions to winning designs in an architectural design competition conducted by *Progressive Architecture*, national architectural magazine. His Portland, Ore., firm, Belluschi

and Skidmore, Owings and Merrill, won an Award Citation for its design of a shopping center in Cedar Hills, a suburb of Portland. Dean Belluschi was also associated with the Boston Center Architects who are responsible for the design of the proposed Back Bay Development in Boston which won the competition's First Design Award and also the Design Award in the Commercial Category. A Fellow of the American Institute of Architects, Dean Belluschi has been associated with some of the country's foremost architectural achievements.

The awards were presented by *Progressive Architecture's* Editor, Thomas H. Creighton, at a banquet held in Boston on January 22 under the auspices of the Massachusetts State Association of Architects and the Boston Society of Architects.

MERVIN J. KELLY, M.I.T. Corporation Member and President of the Bell Telephone Laboratories, has been named to receive the Industrial Research Institute Medal for 1954. The medal, awarded annually since 1945, is given for "outstanding accomplishment in leadership in, or management of, industrial research which contributes broadly to the development of industry or the public welfare." Official presentation of the medal will be made at a dinner of the I.R.I. to be held on April 22 in San Francisco.

Books and Papers

GREGORY M. DEXTER'24 is the author of a paper entitled "Our Neglected Future Engineers" which was presented at a joint session of the Engineers' Council for Professional Development and the American Society for Engineering Education.

ERNST A. GUILLEMIN'24, Professor of Electrical Engineering, has written a book entitled, *Introductory Circuit Theory* (New York: John Wiley and Sons, Inc., 1953, \$8.50). This book introduces the basic concepts and interpretations needed to keep up with the modern approach to advanced problems involving circuit theory.

HOYT C. HOTTEL'24 is secretary of the Standing Committee on Combustion Symposia which published the *Fourth Symposium International on Combustion* (Baltimore, Maryland: Williams & Wilkins Company, 1953, \$7.00).

ARTHUR F. JOHNSON'26 is the author of a paper entitled "Cost Factors in the Utilization of Foreign Bauxite to Make Aluminum" which was presented at the Annual Meeting of the American Institute of Mining and Metallurgical Engineers, in New York, February 15-18, 1954.

WALTER C. VOSS'32, former head of the Department of Building Engineering and Construction at the Institute, was the principal speaker at the Annual Meeting of the Southeastern Section, American Society for Engineering Education, at Raleigh, North Carolina.

Professor Voss spoke on "Initiation of Research Projects." The meeting included representatives of 29 southeastern colleges.

JONATHAN R. ROEHRIG'38 and CLIFTON B. SIBLEY'46 are coauthors of an article

entitled "Wide Range Vacuum Gauge," recently published in an issue of *Electronics*.

MALCOLM W. P. STRANDBERG'48, Associate Professor of Physics, has written a book entitled *Microwave Spectroscopy* (New York: John Wiley and Sons, Inc., 1954, \$2.50).

TRUMAN S. GRAY, Associate Professor of Electrical Engineering, is author of the Second Edition of *Applied Electronics* (New York: John Wiley and Sons, Inc., 1953, \$9.00).

VICTOR F. WEISSKOPF, Professor of Physics, is the author of an article entitled "Science for Its Own Sake," which was published in the March, 1954, issue of *The Scientific Monthly*.

Promotions and Elections

WALLACE L. HOWE'22 was elected vice-president in charge of research and development, and to the board of directors of the Norton Company, Worcester, Mass., on January 19.

MARRON W. FORT'26 was elected a vice-president of A. & G. J. Caldwell, Inc., Newburyport, Mass.

Major General FREDERICK E. GLANTZBERG'27 was named head of the 17th Air Force in North Africa. The announcement was made by the Strategic Air Command and Major Glantzberg assumed his new post the first of February.

ELWOOD W. SCHAFER'32 was appointed manager of color planning of CBS-Hytron, Danvers, Mass.

VICTOR C. STUDLEY'32 has been appointed assistant to the president at Bucyrus-Erie Company, South Milwaukee, Wis.

MORGAN C. RULON'36 has been elected vice-president of Robert E. Lamb & Son, Inc. Mr. Rulon was formerly secretary of the company, which he joined in 1937 after graduating from M.I.T.

RALPH L. DOCKENDORFF'36 has been promoted to assistant department head in charge of the process engineering group in the Design Department of Engineering Division at Humble Oil & Refining Company, Baytown, Texas. In his new position, Dr. Dockendorff will be in charge of process engineering design on major additions to the Baytown refinery.

Major General WILLIAM O. SENTER'38, Commander, Air Weather Service (AWS), will assume command of the Oklahoma City Air Transport Service (MATS) headquarters has announced. Currently, the Oklahoma City Air Material Area of the Air Materiel Command is the primary depot for the overhaul of B-47 aircraft and for the procurement of B-47 supplies.

CHARLES E. WAMPLER'40, former vice-president of American Telephone and Telegraph Company, in charge of revenue requirements studies, has been elected president of the Wisconsin Telephone Company. The appointment was effective on January 1.

ISAAC HALPERN'48, has joined the physics staff at the University of Washington as assistant professor. Previously he had been associated with the electron accelerator and synchrotron groups at M.I.T.

Obituary

ANNIE RICKFELLOW'89, January 17.
 PHILIP C. POWERS'91, January 8.*
 LEROY K. SHERMAN'92, January 5.*
 JAMES C. BOYD'93, January 22.*
 ALAN A. CLAFLIN'94, January 5.
 PHILIP DUMARESQ'95, January 6.
 WILLARD H. WATKINS'95, November 13.
 HARVEY F. HAWLEY'96, July 18.
 FRANK W. JAKES'96, July 18.
 FRED H. SMITH'96, November 16.
 HARRY F. SAWTELLE'97, January 23.*
 EDWARD H. WOODWORTH'97, October 12.*
 GEORGE W. ADAMS'98, October 22.*
 ROBERT S. ALLYN'98, December 16.*
 HOWARD J. BENSON'98, date unknown.*
 RALPH E. WILDER'98, October 28.*
 ABBY M. THOMPSON'99, April 19, 1953.*
 FREDERIC D. LAWLEY'00, December 23.
 HARRY L. WALKER'00, January 6.
 FRANCIS W. PUCKEY'01, January 7.*
 ALBERT A. HASKELL'02, December 19.
 WALTER P. R. PEMBER'02, December 13.*
 EARL P. PITTS'02, May 22.
 EDWIN F. GREENE'03, December 6.*
 EDWARD M. ELIOT'06, August 26.
 RALPH G. STEBBINS'06, January 26.*
 HAROLD P. BAKER'07, December 25.
 FREDERIC B. SCHMIDT'07, December 9.*
 DUNCAN C. HOOKER'08, November 19.
 JAMES T. GALLAGHER'08, December 13.
 EMERSON F. LYFORD'08, January 6.
 HAROLD F. BALLARD'09, January 13.*
 CHARLES ALMY, JR., '10, January 22.*
 JOSEPH WEBB'11, January 16.
 RICHARD L. HARTWELL'12, September 15.*
 ADOLPHE C. CARDINAL'13, January 19.*
 PAUL J. FRANKLIN'13, December 23.*
 WILLIAM H. TORREY'13, July 19.*
 ROBERT K. WRIGHT'13, December.
 NELSON E. BAXTER'14, January 8.*
 CHARLES L. BRAND'15, April 18.
 CHARLES W. COLBY'17, November, 1952.*
 CHARLES T. ELLIS'17, October 2.*
 FRANCIS H. ROCKETT'17, Spring, 1953.
 NELSON C. WORKS'17, December 4.
 ARTHUR L. RUSSELL'18, December 10.
 COUNT B. CAPPS'20, January 14.*
 RAYMOND E. DAVIS'20, date unknown.*
 THEON G. ADAMS'23, December 27.*
 ROBERT B. GEORGE'23, January 8.*
 HAROLD B. GOLDING'23, July 17.
 LERMOND F. SIMONDS'25, April 7, 1953.
 LESTER E. PAYNE'27, September 23.
 RALPH E. PARKER'28, November 20.
 EDWARD E. CHUTE'29, January 2.
 ARTHUR L. BURTON'30, January 10.*
 HENRY C. BABCOX'35, July.
 ANDRES LONDONO-OBREGON'39, December 28.
 ROBERT D. COOMBS, 3d, '41, January 9.
 CLARE O. EWING, JR., 2-44, May 2.
 JOSEPH D. TOOMEY, JR., '47, 1951.
 FRANCIS B. MAXWELL'49, November 21.
 WILLIAM W. TEWELL, JR., '49, December 24.
 CLYDE B. SMITH'53, December 6.
 RONALD H. ROBNETT, staff, February 16.

* Mentioned in class notes.

News FROM THE Clubs AND Classes

CLUB NOTES

Boston Luncheon Club

The third meeting of the 1953-1954 season was held at the Union Oyster House on Thursday, December 17, with an attendance of 77. Dr. Karl T. Compton spoke on "Problems of Government Sponsored Research in Educational Institutions." During World War II, the Institute had a larger money flow, because of government sponsored research, than in all its previous history. The budget in those war years was around \$50 million annually. The work was handled on a non-profit basis, and after the war, the government was reimbursed about \$500,000, representing the small accumulated profit. Despite this policy, M.I.T. made a financial contribution during the war of about \$500,000, principally through various services of its staff which were not paid for.

After the war, the Institute was faced with the problem of shrinking its operations to normal size in short order. Furthermore, although some sponsored research continued, two criteria were adopted to govern assumption of any new project: (1) It must be work that the staff was eager to do; and (2) it must be work on which graduate students could be used in order to further their education. Korea unfortunately upset this policy, and the Institute's budget ballooned again — it is now around \$45 million, of which \$30 million is government sponsored. The largest undertaking at present is the Lincoln Project, which came to M.I.T. as a continuation of work done in World War II on radar. No sponsored research has been sought, since the situation has not been as serious as in World War II; and some research, which did not tie in with M.I.T.'s long-term objectives, were necessarily rejected.

Any government sponsored research creates numerous problems, however. One is the difficulty of obtaining an adequate staff — more difficult as a result of the current spate of investigations which have hurt morale. Another is the achievement of smooth liquidation when projects are terminated. In this connection, the Institute may have a moral, even if not legal, obligation for severance pay to the project staff and may also have some liability on certain sub-contracts. There are two more problems, which are not peculiar to M.I.T.'s sponsored research, but are of national concern. The first is that government work channels energies into defense problems to the detriment of other fields that require study. Dr. Compton is less concerned by the latter, since he believes that the true scientist's problems and interests coincide, and although practical objectives are the aim, there is

plenty of chance for important discoveries along the road. The second matter of concern is the fear that the government will acquire domination of our educational institutions. So far, differences have been amicably resolved. In reply to a question, Dr. Compton said that the California Institute of Technology is apparently the only other college with as large a proposition of sponsored research as M.I.T. — VINCENT T. ESTABROOK'36, *Secretary*, Standish Ayer and McKay, Inc., 50 Congress Street, Boston 9, Mass.

M.I.T. Club of Central Massachusetts

The Club's second meeting of the season took place the evening of January 25 in the Crystal Room of the Hotel Sheraton. About 45 members and guests attended the social hour and dinner.

Our guest and speaker for the evening was C. Stark Draper'26, Professor of Aeronautical Engineering at Tech, who spoke on the subject of "Control in Modern Engineering." Professor Draper compared the development of control mechanisms to the nervous system that evolved during the evolution of the species, culminating in man. He also emphasized the importance of including control in design rather than adding it to finished design. The interest of the Club in his talk was well indicated by a long but lively question period. — JAMES E. HAGGETT'47, *Assistant Secretary*, Norton Company, Worcester, Mass.

M.I.T. Club of Chicago

This Secretary has discovered what M.I.T. really stands for, namely "Men In Transit." Since taking over this job some seven months ago we have averaged about one change of address per day. Sixty-one people have moved into our area, 70 have changed locations within our area, and 74 have been removed from our lists. We trust that all moves are for betterment.

Our Christmas season meeting, when Edward Ryerson'09 was guest speaker, was delightful in every respect. The meeting was held in the Furniture Club atop the Furniture Mart. This location offers a breathtakingly beautiful view of Chicago's famous skyline by night. The drink and food was very fine, topped off with a most enlightening speech by Mr. Ryerson, regarding the importance and logic of contributions by large corporations to channel 11, our proposed educational channel.

A most unusual and interesting trip was arranged through the efforts of Dick Meyer'50 and Deke Taylor'26, to see Illinois Bell Telephone Company's #2 Toll Center in January. Because of the importance of this plant to our national security, very, very few, other groups have been allowed to see what we saw. In fact, we saw more than most of the personnel

within the building are allowed to see. Most employees are forced to stay within their own bailiwick behind doors ingeniously locked with combination locks. Each of us was checked for identification and watched over by the F.B.I. Lack of space prevents a full description of a fine, modern, completely air-conditioned building with its tens of thousands of switches, contacts, relays, and equal mileage of wiring. We saw the monitoring of the major network television shows for whom the Telephone Company is responsible for receiving and transmitting to various parts of the country. It was funny and it was no stunt when we called the Brooklyn, N. Y. weather bureau, and just as you might expect, the recording was unmistakably "Brooklynese."

Phil Coleman'23 continues per usual with his enthusiasm for M.I.T., and now centers his efforts on the Educational Council. Our hats are off to one of Chicago's best known architects, former building commissioner and fellow Alumnus, Richard E. Schmidt'87, who now in his 89th year goes to his office daily. We hope he will continue to be able to do so for many years to come. Ed Sylvester'34 has been recently elected president of the Griffen Wheel Company, so our congratulations go to him.

Unfortunately, we who have large memberships in our clubs, are bound to incur losses of membership through death at all too frequent intervals. Francis W. Puckey'01, IV, passed away on January 7; LeRoy K. Sherman'92, I, died on January 5; and Frederic B. Schmidt'07, IV, died on December 9, 1953.

Meetings scheduled include one on which Bud Meissner'43 planned in March; the Killian-Schell dinner in April, and that terrific excursion on the all important "Belt Line" for May or June. At the last meeting of the officers and directors of our club, we voted to allocate 10 per cent of the dues received to the scholarship fund. — ALFRED S. ALSCHULER, JR.'35, *Secretary*, Friedman, Alschuler and Sincere, 233 West Jackson Boulevard, Chicago 6, Ill.

M.I.T. Club of Cuba

On a beautiful tropical night the Club, following its pleasant annual custom, invited the ladies to a dinner meeting. The table was spread under the palms, and a typical Cuban trio played and sang during the dinner. President Pedraza'41 welcomed the guests of honor, Professor and Mrs. Robert S. Harris'28, and then asked him to address the Club.

Professor Harris reported on developments at the Institute, especially the expansion of physical facilities, the development of the freshman advisory system and innovations in alumni reunions. He then told of the food and nutrition programs he has conducted in Latin American countries and outlined briefly the program he is organizing in Cuba under

the auspices of the Fundación de Investigaciones Médicas (F.I.M.). Antonio H. Rodríguez'21 is serving as president of the F.I.M. Nutrition Committee, Dr. Harris and Juan Navia'50 are serving as scientific director and director, respectively, of the F.I.M. Nutrition Laboratories. When he had concluded, Rodríguez and Navia spoke briefly.

The members were especially pleased that Mr. and Mrs. Fred. C. Randall'02 were present. Others present were: Mr. and Mrs. Pablo Beola'14, Mr. and Mrs. Antonio H. Rodríguez'21, Mr. and Mrs. Gaspar Vizoso'31, Mr. and Mrs. Juan Chibas'31, Rafael Sánchez Casanova, Mr. and Mrs. Jorge Echarte'40, Mr. and Mrs. Alfredo Pedraza'41, Mr. and Mrs. Alfredo Blanco'41, Gustavo Calleja'43, Miss Galainena, Mr. and Mrs. Antonio Badia'43, Mr. and Mrs. Victor Carmona'43, Mr. and Mrs. Rafael Laredo, 2-44, Mr. and Mrs. Gonzalo Docal, 2-44, Francisco Vazquez, 2-44, Miss Terry Silva, Mr. and Mrs. Manuel Cadenas'45, Mr. and Mrs. Angel Figueredo'47, Federico Lindner'49, Luis Suárez'48, Agustín Reyes'48, Miss Ana María López, Mr. and Mrs. Enrique Rodríguez'49, Mr. and Mrs. Luis Marques'49, Mr. and Mrs. Juan Navia'50. This event took place on January 29, 1954. — ANTONIO H. RODRIGUEZ'21, *Secretary*, Concordia 61, Havana, Cuba.

M.I.T. Club of East Tennessee

After a two-year period without a formal meeting, we called one on January 25 to be host to Theodore Wood, Jr., Associate Professor of English, M.I.T., who was interviewing high school boys in the area. Since some of our officers desired to be relieved of their duties, the following were elected: President, A. Carleton Jealous'42, Oak Ridge; Vice-presidents, George W. Bergman'27, Knoxville; Robert E. Frierson'29, Chattanooga; Joel B. Stevens'33, Kingsport; Secretary-Treasurer, Robert Forbes'33, Knoxville.

Professor Wood described the procedures followed in his interviews and praised the work of school guidance counselors. He explained the function of the Freshman Advisory Council and gave us information on the scholarship program. The meeting was an informal discussion affair, and everyone enjoyed the chance to get some first-hand information from a member of the staff. Present were Mr. and Mrs. Robert D. Birkhoff'45; Mr. and Mrs. Howard P. Emerson'28; Forbes, with his son Freddy, who was introduced as a possible'61; Frierson; Mr. and Mrs. Van Court M. Hare, Jr.'23; Mr. and Mrs. Richard E. Hickman'36; Jealous; Albert G. Kern, Jr.'34; Thomas H. D. Kesterson, 10-44; Archibald H. Kinghorn, Jr.'20; William Nixon'31; Mr. and Mrs. George P. Palo'28; Joseph D. Stout'47; and John D. Yerger, Jr.'50.

Dana M. Wood'06, our senior member and outgoing treasurer, plans to retire from his position as chief of the Power Studies Branch, T.V.A., in April, and move to Kingston, Mass., where he is building a house. First Dana, and then Mrs. Wood, have both been ill this fall and winter, and we wish them complete recoveries. Dana, incidentally, is quite an experienced treasurer, having held that

office in the Tennessee Valley Unitarian Church for the first three years after its organization in 1949.

We have two globe-trotting members lately. George and Ann Palo returned in November from a three-month tour through western Europe, where they visited several engineering projects en route; George has been entertaining audiences since then with a talk entitled "Vocation on Vacation." Van Court Hare spent several months during 1949 in company with Gordon Clapp, T.V.A. Chairman, as engineering consultant on the United Nations Economic Survey Mission for the Middle East, after which he presented his views orally under the title, "Sunlight and Shadows in the Middle East." Now, on February 3, Van left again on a three-week trip for the State Department; we don't have details except that his first working stop was Cairo, Egypt, on February 5. — ROBERT FORBES'33, *Secretary-Treasurer*, T.V.A., 704 Union Building, Knoxville, Tenn.

M.I.T. Club of Kentucky

Members of the Club are getting together for informal luncheon meetings in Louisville on the first Monday of each month at the Pendennis Club, 12:15 P.M. For further details, get in touch with Craig P. Hazelet'18, President, or Frank P. Wardwell'38, Secretary — Phone CA-3611. Members who have been able to attend the first two meetings are: William W. Black, Jr.'43, Charles E. Breitbell'22, Arthur Cary'34, Allan K. Cook'34, John H. Dedrick, Jr.'48, Donald D. Dissly'43, Albert L. Entwistle'26, Howard D. Edwards'45, Frank I. Fonaroff'22, Gus M. Griffin'39, Craig P. Hazelet'18, Austin D. Higgins'20, James R. Kane'47, Arthur M. King, Jr.'35, James G. Metcalfe'04, John R. Poteat'18, Cason Rucker'35, Melvin Sack'28, Edward J. Schickli, Jr.'50, Edward E. Simpson'33, Frederick H. Stover'10, Frank P. Wardwell'38. A cordial invitation is extended to alumni visitors to join us and sample Kentucky hospitality. — FRANK P. WARDWELL'38, *Secretary*, American Air Filter Company, Inc., 215 Central Avenue, Louisville 8, Ky.

M.I.T. Club of Northern New Jersey

The winter meeting, with President Glenn Jackson, Jr.'27, presiding, was held on January 27 at the Hotel Suburban, East Orange. Some 104 Alumni saw an interesting movie, heard a sprightly, informal talk by Admiral Edward L. Cochrane'20, Dean of Engineering, and then wound up the evening of good fellowship with refreshments of sandwiches, potato chips, pretzels, beer and soft drinks.

That *Fabulous Bolivar* was supplied through the courtesy of the United States Steel Company. It is a color sound picture showing the planning, engineering, construction, and operation of the Cerro Bolivar iron ore facilities in Venezuela from 1947 to 1953. Cerro Bolivar is the name of a whole mountain of high purity iron ore (10,400 tons will make 5,000 tons of steel) situated in the heart of Venezuela. This gargantuan source of ore is

one mile wide, four miles long, and 1,800 feet high! The value of such a commercial gem was proved by the reports of a geological survey party in 1947. After three years of further exploratory work, the Orinoco Mining Company was organized in June, 1950, as a subsidiary of U. S. Steel in order to develop the area as the major source of ore for the new Fairless Steel Works then being built on the Delaware River at Morrisville, Pa. Major construction work was begun in 1952 and the first shipload of ore arrived at the Fairless Works on the freighter *Tosca* in January, 1954.

Some interesting facets of the tremendous size of this project were the building of an overland highway, including 12 bridges, from the mine site to the seaport of Puerto Ordaz, a 90-mile railroad with the same terminal points, and even the city of Puerto Ordaz itself. Construction of the latter, built from scratch out of the jungle and situated at the junction of the Orinoco River and one of its tributaries, included streets, homes, stores, schools, a radio station, an airport and even a large shiploading dock 1,128 feet long. This dock was prefabricated of steel in three large sections, 82 feet wide and 300 feet long, which were built in the United States and then floated as barges to the dock site. Each brought with it 26 sections of large steel pipe six feet in diameter and 40 feet long. These pipe sections were used as piles (two rows of 13 for each barge) and were driven into the river bottom down to bedrock. The barges were then jacked up to the proper height, the top sections of pipe cut-off, flush with the top surface of the barge, and the flush ends were then welded to the barge making a rigid unit. Another big job was the dredging of a ship channel from Puerto Ordaz 175 miles to the sea in which an eighth of a million cubic yards of earth were removed. A total of about 7,000 workers were needed for the whole project. This includes about 500 people who were employed in building just the city and harbor of Puerto Ordaz.

Admiral Cochrane spoke on the present and future of air, land, sea, and undersea transportation as well as the effects of new power plants thereon. He stated that the country is faced with a cockeyed problem of co-ordinated transportation systems. Each form of transportation has services for which it is best suited. The railroad is the most economical way of moving bulk items ashore. Trucks offer quick door-to-door service with small loads. And, of course, ships are the cheapest medium for transoceanic hauling. Airplanes have their forte in carrying perishables, products with a high value-to-weight ratio, or anything in which speed is vital or the shipping points are practically inaccessible by any other means of transportation such as is the case in many of the Latin American countries. However, Dean Cochrane stated that planes must have payloads in tons if they are to really find their place as a major freight carrier.

The Dean then referred briefly to the great progress that has been made in the past decade in the speed and capacity of oil tankers. They have gone from the 10-knot — 10,000-ton size just prior to World

War II, through the 16-knot—16,000-ton ship of the war and immediate post-war period to the present 19-knot—45,000-ton class. The first ship of this latter class, which is the size of the luxury liner *United States*, was launched on February 10. In the overall picture, he said, the prime requirements of an efficiently operating merchant marine are ships, men, shore establishments, and repair and shipbuilding establishments.

Concerning the impact of new machines on transportation, Admiral Cochran commented briefly on the atomic submarine *Nautilus*, also recently launched. Many problems are involved with the use of such a unique power plant. Potentially the fuel is dangerous to humans, but this problem has been handled most satisfactorily by an extremely fine set of standards. Relative to the use of nuclear energy in the power generation field, he said that it seems foolish to put an atomic plant in Ohio since there is already plenty of natural fuel (coal) in that area. The real need is at places where no natural fuel is available as, for example, in Brazil, Japan, Cuba, and even New England. He remarked that we must face the fact that the United States is no longer an independent nation relative to metallic ores and other natural resources, and that the development of nuclear energy today is on the frontier of truly great progress. Airplanes, ships and anything where freight charges on fuel are a hindrance are ripe ground for nuclear development. He said that as the Dieselization of American railroads followed that of the Navy's submarines in the '30s, so may the use of atomic energy for many other modes of transportation follow the lead of the new *Nautilus*.

On the business side, Treasurer Joe Wenick'21 gave an excellent and brief summary report of the progress of the Club's membership and cash position over the past few years. Membership had the following growth: 1949(214), 1950(170), 1951(208), 1952(176), and 1953(237). Meanwhile, the cash in the treasury has grown as follows: 1949(\$1,168), 1950(\$1,105), 1951(\$1,387), 1952(\$1,146), and for 1953(\$1,493).

The next meeting, scheduled for Thursday April 8, will be a dinner meeting at a suburban country club.—RUSSELL P. WESTERHOFF'27, *Secretary*, 823 East 23rd Street, Paterson, N.J. JOHN T. RED'48, *Assistant Secretary*, Westinghouse Electric Corporation, 95 Orange Street, Newark 1, N.J.

M.I.T. Club of Philadelphia

A very pleasant meeting was held on January 26 against the beautiful setting of the Mirage Room of the Barclay Hotel. An informal social period just prior to the dinner afforded an excellent opportunity for the members and their ladies to visit with friends and make new acquaintances.

We were privileged to have as our guest speaker of the evening Frank N. Piasecki, Chairman of the Board of the Piasecki Helicopter Corporation, Morton, Pa. Mr. Piasecki spoke about the helicopter, and emphasized its history, present applications, and probable future. He

pointed out the tremendous impetus that World War II and the Korean conflict had given the development and acceptance of helicopters, and mentioned some of the problems which he and his associates overcame in producing their first helicopter. He concluded his talk by discussing some of the roles that will be played by the helicopter in future commercial aviation. Of particular interest were his comments that the capacity and speed of helicopters about to go into production would soon enable the replacement of fixed wing aircraft for short flights of up to 300 miles, and that the smaller airports needed could put air service within the reach of many smaller cities which do not have the capital to build the larger ones. He also noted that smaller helicopter airports within larger cities would result in saving time for passengers who often spend as much as an hour or more in traveling to existing outlying airports.

The business portion of the meeting consisted of approving the slate of officers recommended by the nominating committee. The officers for the current year are: President—C. Willis Stose'22; First Vice-president—Frank S. Chaplin'32; Second Vice-president—Samuel K. McCauley'41; Third Vice-president—Hal L. Bemis'35; Secretary—William H. Bertolet, 3d'48; Treasurer—John W. Patton'30; Executive Committee—James R. Calkins'50, Robert C. Fisher'44, Charles W. Hargens, 3d'41, Robert L. Hershey'23, William W. Pleasants'33 and Richard M. Westfall'37. Additional officers appointed by the President were: Assistant Secretary—Stephen B. Hazzard'43, and Richard M. Westfall'37; and Assistant Treasurer—Charles W. Hargens, 3d'41.

The next meeting will be held on April 27 at the Hotel Dupont in Wilmington, Del. We hope you will all set that evening aside right now.—WILLIAM H. BERTOLET, 3d'48, *Secretary*, 606 Highland Avenue, Glenside, Pa.

M.I.T. Club of South Florida

At a dinner meeting of the Club held at the Seven Seas Restaurant in Miami Fla., on January 21, the following Alumni were elected officers for the 1953-1954 season: Charles S. Symonds'35—President; Fred E. Mason'29—Vice-president; Robert Nedbor'37—Vice-president; Scott J. Hoehn'47—Vice-president; Donald S. Whitmore'51—Secretary; William Sussman'40—Treasurer. Plans for the February meeting were also announced. Saturday, February 13, was designated "M.I.T. Day at the 'General Motors Motorama.'" All of the Alumni of the Institute, together with their families, were invited as special guests at this fabulous show.—DONALD S. WHITMORE'51, *Secretary*, 2191 S. W. 11th Street, Miami, Fla.

M.I.T. Club of Western Pennsylvania

Our Western Pennsylvania group has held three very interesting meetings since we were last mentioned in club notes. The December meeting was addressed by

Aldo Icardi who featured in the controversial espionage affair in Italy during the last war. Mr. Icardi gave his view of the entire affair which proved to be an exciting spy thriller equal to any fictional work.

In January, William Froelich'47, Executive Director of the Public Parking Authority of the City of Pittsburgh, was our guest and discussed the traffic and transportation problems of Pittsburgh. He delineated the many problems involved and described plans for their solution.

Our most recent meeting on February 2 was of special importance. Fifty high school representatives from the Pittsburgh area were our guests for dinner and were addressed by Professor B. Alden Thresher'20, Director of Admissions of the Institute. All of us were brought up to date on the Institute's entrance policy by Professor Thresher's entertaining talk. Many interesting points of educational philosophy were mentioned, and we were impressed with the many changes in policy and curriculum that have taken place in the past few years. Professor Thresher's talk was extremely interesting to Alumni and guests alike. It is intended that this get-together with high school representatives shall be a regular annual affair.

Those Alumni in attendance were: Raymond H. Shriver'29; Eugene L. Chappell'24; Roger F. Mather'40; Robert H. Bicker'52, Joseph L. Thistle'32; Wesley Hemeon'29; George M. Colvill'51; Ed Stoltz, Jr.'45; George A. Morrison'09; William J. Bates'35; Charles M. Boardman'25; Edgar Marburg'27; Nicholas Melissas; Henry C. Hoar'25; Paul Tillson'38; Ronald A. Brightsen'50; Robert J. Agnew'53; Art Mason'33; Charlie Peck, 2-46, Henry Avery'41, and the writer. We expect to have several meetings before summer arrives, and once again we extend a welcome to any Alumni in the Pennsylvania-Ohio-West Virginia area.—WILLIAM M. LAIRD'43, *Secretary*, Box 242, Oakmont, Pa.

CLASS NOTES

• 1885 •

A few years ago I sent The Review a list of class members who had become prominent in some particular field. This list included some Special Students who had been assigned to '85. Of those who entered our Class originally, the late Arthur Dehon Little was one of the most distinguished. In due time he established Arthur D. Little, Inc., which while originally a chemical consultant firm, has since acquired such diversified talent that it can handle almost any problem for any technical industry.

Probably the most notable example of A.D.L. originality is the helium cryostat, a machine capable of chilling helium gas to 459 degrees below zero F., and turning it into a liquid. The cryostat was invented by Professor Samuel C. Collins of M.I.T. and engineered into a manufacturable machine by Dr. Howard O. McMahon, A.D.L.'s own research director. Before a partly owned subsidiary, the Cambridge

Corporation, started making the cryostat eight years ago, only four laboratories in the world could undertake very low-temperature research. Even more impressive is an oxygen generator which can liquefy air and distill 10 tons a day of pure oxygen. Developed for the United States Air Force, this can be disassembled and shipped by air.

In 1935 A.D.L. invented a still for making fresh water from salt water. It operated with undreamed of efficiency by using compressed steam to boil the salt water. By the end of World War II they were in service on almost every U.S. submarine and were rushed ashore at almost every landing in the Pacific. Still another triumph of mechanical research was the pressurized blast furnace, invented by A.D.L. for Republic Steel. By blowing highly compressed air through molten ore and slag, the pressure system turns out pig iron 15 per cent faster, while producing 33 per cent less flue dust and using no more coke. In 1918, the Canadian Pacific Railway hired A.D.L. to send experts up and down the main-line tracks to spot ideal locations for new industries. Starting in 1942, A.D.L. tourist teams have done a similar job for the Puerto Rican Government.

Currently, through the Point Four Program, A.D.L. is acting as special adviser to the Egyptian Government. One task was to improve Egyptian housing. Before the time of the first Pharaohs, the Egyptian fellah was building his house as he does today: out of sun-baked mud bricks and with a domed roof. In the occasional torrential rains of the delta land, the bricks soften and the roof collapses. A.D.L. recommended the addition of three per cent of bitumen, a sticky black oil-refinery residue, to the mud. Thus stabilized, the primitive bricks can withstand wet weather, and the fellah need not be broken of his 5,000-year-old building habits.

In 1921 some whimsical chemists made a silk purse from 100 pounds of sows' ears. What the A.D.L. had in mind was simply to produce an object lesson in research philosophy. A departure from chemical and mechanical research is the A.D.L. flavor laboratory. Industrial laboratories, such as Arthur D. Little, Inc., are one reason why United States industry is able to advance so and yield a high standard of living for the people.

Above are condensations of articles in *News Week* and *The American Exporter Industrial*. — ARTHUR K. HUNT, *Secretary*, Longwood Towers, — Brookline 46, Mass.

• 1891 •

Once again our Secretary has asked me to write the class notes. First, it is with deep regret that I report the death of Philip Powers of Springfield, Mass. Phil was with us only one year. I remember him as a very congenial fellow, and I used to visit him in Springfield where his father owned some fast horses. Phil became president of the Powers Paper Company in Springfield and held that position until his death on January 8.

Ambrose and Mrs. Walker are in Winter Park, Fla., at 1350 Lake Knowles Circle. Gorham Dana, Chairman of the Brookline Historical Society, prepared a

paper for the annual meeting of the Brookline Historical Society entitled "The First Town Hall and The Old Taverns of Brookline," from which we quote: "You are all probably aware that the building in which we are now assembled was the first town hall and that it was later named Pierce Hall in honor of the Reverend John Pierce, the much-beloved Minister of this church for 52 years, from 1797 to 1849. It was built in 1824 when the church and the town were one and the minister's salary was paid by the town. In the church office is an interesting petition from the fourth minister, the Reverend Joseph Jackson, to the selectmen of 'Brooklyn' requesting that a special town meeting be called to raise his salary. The meeting was not called, but Mr. Jackson was later supplied with a parsonage. It was not until 1834 that the state laws were amended to require separation of church and town, and this church was set up as the First Parish in Brookline, instead of the Church of Christ in Brookline. . . .

"The building has had an unusual history. The first high school in town was organized on the ground floor. In 1834, when the separation of church and town occurred, the church became the First Parish in Brookline and the church building, and the land on which it stood, reverted to the parish from the town. In 1845 the town built a new town hall on Washington Street, and Pierce Hall was used only as a school. Among the scholars were a number of well-known citizens, some now members of this parish. When the South Primary School was opened in 1851, Pierce Hall was again used as a primary school. In 1868 the Boylston Street school was opened and Pierce Hall was abandoned by the town and remained vacant until purchased by Edward Atkinson and Nathaniel Chapin in 1869. Mr. Atkinson organized a very famous school, presided over by Miss Rideout and later by Miss Seaman. In 1887, when Mr. Atkinson's family had completed their education, he gave up the school. The building remained vacant for a time but was purchased by First Parish in 1890 for \$1,000. . . . In all the long history of Pierce Hall the building has been gradually improved and rebuilt so that nothing now remains of the original except the stone walls. In spite of the fact that the parish once considered tearing it down on account of the expense of repairs, it was never in better condition and of more use to the community than it is today. We can truly say in the words of the Bible, 'And the rains descended and the floods came, and the winds blew and beat upon that house and it fell not for it was founded upon a rock.' And we might add that it was built of durable Quincy granite."

Gorham included a letter from Robert Ball from Cambridge, England: ". . . You are not alone in thinking that M.I.T. occupies an increasing share of the world's educational outlook. Here is the substance of an article in a local paper, which shows how a leading member of a university, the head of a college, and a most distinguished man, looks upon things on the eve of his retirement. 'The Americans,' he said, 'who come here regard the Massa-

chusetts Institute of Technology as the best in the world. It may be the best in Massachusetts and, I hope, it is the best in the world.' The interchange of students between M.I.T. and Cambridge should be fostered. It is an undoubted fact that there is much in both 'worlds' which is complementary and makes us cautious about the superlatives in comparing them. It is interesting to note the growing interest in England in 'scientific' (as distinct from classical) universities. This is due to the dominating position of science today, and while the ancient seats of learning maintain their influence, the new are overtaking them with the challenge of science."

"My grandson Robert comes to school in England (Marlborough) from Kenya in January. You will perhaps remember that my son's widow married a very prosperous settler in Kenya. I have not seen him for some years since he has become an accomplished rider to hounds, for Kenya is a noted terrain for sport of this kind. My daughter who lives some 80 miles from the Fieldens (the stepfather and mother) is happily away from the centre of the Mau Mau disturbance. I hope your allusion to your health means that you are keeping fit. This would apply to me still as I have not reached the 'old crock' stage — I will be 84 on the 17th."

Excerpts from Gorham's "History of Old Taverns" will be published next month. — HARRY H. YOUNG, *President*, 290 Main Street, Cambridge 42, Mass. FRANK W. HOWARD, *Secretary*, Bemis Associates, Inc., Watertown 72, Mass.

• 1892 •

Arthur Ober was the only class representative present at the Midwinter Meeting of the Alumni Association. The Secretary was tied up with another appointment.

We have recently received notice of the passing of LeRoy K. Sherman at his home, 1143 Clarence Avenue, Oak Park, Ill., on January 5, 1954. Sherman was born in Eastham, Mass., on July 20, 1869, and entered M.I.T. from the Chicago West Division High School graduating with us with an S.B. in Civil Engineering. Specializing in sanitary work, he had been assistant engineer of the Sanitary District, Chicago, director of War Housing and Transportation in World War I, consultant on Flood Control, Corps of Engineers, and president of Randolph Perkins Company, Engineers, Chicago. He was also active in the establishment of the Regulating Works and Water Power of the Chicago Sanitary District. He made a special study of, and developed, the Unit Hydrograph Method for derivation of run-off and flood flow from rainfall. He was a member of the American Society of Civil Engineers and honorary member of the Illinois Society of Engineers and past president of the American Association of Engineers.

From the December 19th issue of the *United States Investor* we learn that Dwight P. Robinson, Jr., the son of one of our classmates, was appointed chairman of trustees of the Massachusetts Investors Trust, on January 1, 1954, having joined this organization as head of its Investment Research Department in 1932.

The concern is one of the oldest and largest of the organizations in the investment trust business. — CHARLES E. FULLER, *Secretary*, Box 144, Wellesley 81, Mass.

• 1893 •

After a short illness, James Churchill Boyd passed away on January 18 in a Ft. Lauderdale, Fla., hospital. He spent three years (1889-1892) with our Class in Course III. A good account of his business and engineering experience, which covered a wide range of worthwhile projects, will be found in the reports of our 30th and 50th anniversary meetings. Boyd also took an active interest in civic affairs. At the time of his retirement in 1931, Boyd was a senior member of the well-known firm of Westinghouse, Church, Kerr and Company, Consulting Engineers, New York. He was a director of the National Bank of Commerce of Portland and the Thomas Laughlin Company at the time of his death.

Boyd is survived by his two sons, John S., and James W., and five grandchildren, Robert, Richard, David, Barbara C., and James C., II. — FREDERIC H. KEYES, *Secretary*, Room 5-330, M.I.T., Cambridge 39, Mass. GEORGE B. GLIDDEN, *Assistant Secretary*, 99 Chauncy Street, Boston 11, Mass.

• 1895 •

We are glad to report that Andrew D. Fuller has accepted the appointment as 1895 Class Representative to the Alumni Council. Andy has held this important post during the past five years, and from Alumni reports he has done an outstanding job. He has been most faithful in attendance, and his co-workers always look forward to his presence to enjoy his diplomatic approach in solving some of the many problems presented. The Class is fortunate in having him accept this service, and we are deeply indebted to him for his unfailing loyalty to the Class and the Alumni Association.

Judson C. Dickerman is carefully nursing his garden throughout the mild Virginia winter, so at the first sign of spring it will promptly bloom forth in all its glory. His one great relaxation is still "singing in the choir." He is grooming his 17-year-old grandson to fit him for possible entrance to Technology. Assuming he makes the grade, this will be an excellent opportunity to make application for a scholarship from the 1895 Scholarship Fund, open to sons and grandsons of 1895 graduates of Tech. We record a new address for Professor Arthur F. Nesbit, at 1004 Penn Avenue, Wilkesburg, Pa. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

• 1896 •

It has been gratifying to the Secretaries to receive acknowledgements by a number of the classmates, to the effect that our list of living classmates satisfies a very definite void. We wish to add the name of Henry Hedge to the "omitted by mistake." He is living in Brookline at present and spends most of his afternoons at the Brookline Country Club. The Midwinter Alumni Meeting found Fred Damon, James Driscoll, Fred Rundlet, and John Rockwell in attendance. For report of sci-

entific program, see Technology Review for April. In a note from Mrs. Eames, we regret the announcement that her husband Edward has been failing in health for some years, and now requires hospitalization. Her address is Lenox Hotel, Buffalo, N.Y. Please accept our sympathy. It was pleasant to hear from Augustus Bowie, San Francisco, Calif. He regrets that he has been tardy in keeping up with our class activities and greatly appreciated the recent class letter with its list of living members.

As you probably recall, Charlie Locke was not only secretary of our Class for many years, but was also a very efficient secretary to the M.I.T. Alumni Association. At our 50th reunion in Osterville, a suitably inscribed plaque was presented to him in appreciation of his services to our Class. The Florentine framework in beautiful coloring and design was the product of the office of Ralph Henry. It seemed fitting to your Secretaries that a permanent, suitable location in the Alumni Office at M.I.T. be selected to further emphasize his services to his beloved Technology. We have, therefore, taken the liberty of forwarding this artistic honorarium to a committee which has disposition of similar documents. To refresh your memory, the inscription on the plaque reads as follows: "To Charles E. Locke in affectionate appreciation of unselfish and faithful devotion as its Secretary and Treasurer, 1908-1946. We, the Class of 1896, Massachusetts Institute of Technology, extend our gratitude on this our fiftieth anniversary reunion. The seventh day of June, nineteen hundred and forty-six."

We have received the following letter from Billy Haseltine: "As you can see from the above address, I am at present in our permanent home in Ripon, Wis., but we have spent practically all our time since my retirement from the military service in 1945 in California, and, as a matter of fact, we shall return again in a few days, having delayed this long to await the birth of our eighth grandchild — this being our youngest son's first child. Our youngest son is an M.D. practicing in Oshkosh, Wis. On our way to Claremont, Calif., where we shall probably stay until late May, we shall visit our daughter in Seattle who, in addition to two daughters, has recently borne a son. From Seattle, we shall spend a few days with our eldest son, William R., '34, and his family of four — two boys and two girls — at China Lake, Calif. So you see we have to move about a bit to keep in touch with all the family. As for myself, while technically idle, time never hangs heavy on my hands as I have always had lots of hobbies. Painting and color photography, my two present hobbies, keep me from being bored. With best wishes. Sincerely, Billy Haseltine."

Bradley Stoughton's letter reads as follows: "Thank you for the names and addresses of the Class recently received. It is a great convenience to have these addresses. Looking forward to seeing you at luncheon in New York on the 26th." Changes of address: Miss Ada M. Fitts, 111 St. Paul Street, Brookline; Winthrop Coolidge, 5749 Kenwood Avenue, Chicago, 37, Ill. — JOHN A. ROCKWELL, *Sec-*

retary, 24 Garden Street, Cambridge 38, Mass. FREDERICK W. DAMON, *Assistant Secretary*, Commander Hotel, Cambridge 38, Mass.

• 1897 •

Harry Worcester reports that on a recent trip to New York and Washington he talked by telephone with Tom Weymouth, George Wadleigh, and Proctor Dougherty. George reported that he was "fine," Proctor said that "all's well along the Potomac," and Tom said that he was feeling much better than he has in recent months. We are surely glad to hear these good reports from our classmates.

From Proctor Dougherty we learn that the University Club of Washington observed with a golden jubilee dinner on February 23 the organization of the Club on February 22, 1904. Proctor presided at the organization meeting 50 years ago and is one of the four surviving charter members. The Washington *Post* of January 31 had a preliminary article on the anniversary dinner and printed a cut from a photo of the four surviving charter members. The cut gives an excellent picture of Proctor, who, by the way, is a former commissioner of the District of Columbia.

It is with deep regret that we must record the passing of two of our classmates. As noted in the March issue of The Review, Edward H. Woodworth, Course V, died suddenly at his home in Damariscotta, Maine, on October 12, 1953. His daughter, Miss Caroline Woodworth, has very kindly given us a sketch of his industrial life. He joined the Eastman Kodak Company of Rochester in 1898. Later he was associated with the Aristotype Company, in Jamestown, N.Y. When Eastman Kodak Company acquired the Aristotype Company, Edward became assistant manager and later general manager of the Aristotype Division. In 1912 he went to the Canadian Kodak Company, Toronto, Canada, as general superintendent of the works, and served in that capacity until his retirement in 1941. He also served as a director of the Company from October, 1938, until April, 1942. On his retirement he took up his summer residence in Maine and his winter residence in St. Petersburg, Fla.

Harry F. Sawtelle, Course I, of Longwood Towers, Brookline, Mass., died on January 23, 1954. He was a former member of the Boston Transit Commission for many years and served as designing engineer on many subways and bridges in Greater Boston. He leaves his wife, the former Maud Merrill of Cambridge, Mass. Harry was with us at our 40th anniversary reunion in Osterville in 1937. The Class extends its most sincere sympathy to the families of the deceased. — JOHN A. COLLINS, JR., *Secretary*, 20 Quincy Street, Lawrence, Mass.

• 1898 •

Our genial and able Secretary, after a long siege battling a cold during the first three weeks of January, was able to leave home on February 2 for a trip South and West to recoup energy, absorb sunshine, call on '98 men, and have a long-earned rest. Sam, or Ed (whichever you choose to call him), hates to retire from business,

to admit that age is creeping up on him, and that it's better to take life easy than to overwork. But now he has gone, and I'll pinch-hit for him. He and his sister Marion, chauffeured by their old friend, R. E. Bailey, are on the road expecting to return to Boston in April. Their itinerary is: "As outlined, we are driving South on the Ocean Highway to Florida; then West via New Orleans, Texas, New Mexico, Arizona to California. Returning East, we expect to visit Hoover Dam, Zion National Park, Grand Canyon, Petrified Forest, Albuquerque, Santa Fe, and so on. I do not need to tell you that some of those distances across Texas and in California required some figuring. Hope to see some of the boys and girls of '98 en route, and will drop you a line occasionally. I enclose a copy of another book by my daughter entitled *Essex (England) Sessions of the Peace 1351, 1377-1379*, edited with an introduction by Elizabeth Chapin Furber, published in 1953. It occurs to me that many sons and daughters of our classmates are doing notable work, and a brief mention of this might encourage the sending of material about the children and grandchildren, all of which would be of interest — the more diversified, the better, so that the notes may describe the doings of all members of the Class, now 130-odd, and their relatives."

So when Sam returns to Boston we may expect much news about the long trip and classmates. And now let's hear from our old friend, Arthur E. Franklin:

"Dear classmates of our famous ninety-eight,

In spite of hoped-for plans, it is my fate To miss another royal time in June, To introduce ourselves, and then commune.

My engine needed vitamins and such, To give me pep and keep that boyish touch;

But, worst of all, the M.D. put me out To pasture (in a bed) to get me stout, So my imagination has full sway, As you assemble on this special day; I see you gath'ring 'round the Institute To greet long-time friends, new ones salute;

Here's to a big time for you, one and all, And may no kinks arthritic you befall! We'll have Arthur write an ode to our 60th — why not?

Howard L. Bodwell, after attending our 55th, wrote the following: "Well, we got home all right after driving about 3,700 miles and visiting several places on the way. We had no trouble whatever except for the extreme heat encountered in the middle and far West. We were naturally happy to get here where it is so comfortable and we can relax. We are just about caught up with the accumulation of things needing to be done. I am very glad that I was so fortunate as to be able to attend our 55th. It was a grand and successful event. I met a lot of the old boys whom I was particularly glad to see again. We owe Lester, yes, and you, also Roger Babson, and others, many, many thanks for our entertainment. Mrs. Bodwell joins me in expressions of appreciation."

We are all sorry that Ernest A. Bragg was unable to come to our 55th. His note reads as follows: "It is with deep grati-

tude that I received your letter conveying greetings and best wishes from those at the 55th reunion. At that time I was in no condition to be present; however, I have continued to improve and may yet be able to attend a later gathering." Ernest is a jolly good fellow. Write to him at Milford, Mass., and I'm sure you will get a good letter from him. About Charlie Winslow — an award: "To Dr. Charles-Edward A. Winslow went one of the nation's primary medical honors, one of the Lasker Awards of the American Public Health Association — an inspiring leader, teacher, and ambassador extraordinary of public health." Another quote: "The residue of the estate of the late George W. Treat is to be shared by six educational institutions of which M.I.T. is one."

Lester D. Gardner writes: "The 50th anniversary of powered flight was celebrated here and abroad with many ceremonies. Lieutenant General Doolittle²⁴ was chairman of a large national committee. Dr. J. C. Hunsaker¹², Vice-Admiral Emory S. Land⁰⁷, Charles L. McCarthy¹⁶, and I were members of the committee. My special assignment was concerned with pioneers of aviation. We brought about 30 famous pilots from abroad. The anniversary was climaxed on December 17, when President Eisenhower addressed a formal dinner in Washington. It was probably a gathering of more aviation celebrities than had ever been assembled in this country and was a fitting close of such a notable event in American inventive history." Roger W. Babson has made his forecast for 1954. His librarian told me last summer that Roger, now 77, has already published 76 books and his syndicated newspaper articles continuously for over 40 years without a miss. Isn't that an amazing record?

When Roger Babson went to Tech,
Was corporal of my squad,
I never thought he'd write so much
That men would weigh his word.
He shows you when to buy and sell,
To keep your money working,
He's certainly an eager beaver,
You never find him shirking.
We wish him many years of life,
Ensconced on Weston Hill,
We wish him greatest happiness,
His job no one can fill.

A tribute to George Wendell Adams, IX, in the November 28, 1953, *Christian Science Sentinel*, reads: "It is with deep regret and with sincere sympathy for the many friends and pupils of our beloved associate and coworker, George Wendell Adams, C.S.B., that we report his passing on at his home in Squantum, Mass., on Thursday, October 22, 1953. Mr. Adams was a native of Kingston Mass. He received his academic education at Phillips Exeter Academy, Chauncy Hall School, and Massachusetts Institute of Technology." George was a classmate of Ernest F. Russ and the Chapins in Chauncy Hall School. A new address to Eva Crane Morrill is: 16 Hunnewell Circle, Newton 58, Mass.

Our losses are as follows: Robert S. Allyn, II, Lakeville, Conn., on December 16, 1953; Ralph E. Wilder, I, 3155 Detroit Avenue, Toledo 10, Ohio, on October 28, 1953; Howard J. Benson, III, 326 Atlantic Avenue, Long Beach, Calif.;

Mark E. Taylor, II, 1211 Hamilton Street, N.W. Washington, D.C. We have no further details of these losses. If you know any of the relatives, please write to them.

The 1954 Midwinter Meeting of the Alumni Association was held on February 4 in Walker Memorial. Ernest F. Russ and your Assistant Secretary were there. The steak dinner was fair, the Logarithms, student singers, were good, but the scientific demonstrations of "Research Row" were remarkable. — EDWARD S. CHAPIN, Secretary, 463 Commercial Street, Boston 13, Mass. ELLIOTT R. BARKER, Assistant Secretary, 20 Lombard Road, Arlington 74, Mass.

• 1899 •

"A Night Scene in Taxaco, Mexico," is the title of an oil painting by the late Miss Elizabeth Nathan, daughter of Albert F. Nathan. This painting was recently presented to the Plainfield, N.J., Public Library by Mrs. Nathan as a memorial to her daughter. The Plainfield *Courier News* for January, 1954, said, "This picture is an example of one of the finest achievements of the local artist who merits a place with New Jersey's best." Miss Nathan died on April 1, 1953. A daughter to be proud of, Albert.

Ed Sutermeister writes that he prefers the "good ole days when I could buy the best beef at around 18 cents a pound; when I could jump a trolley car instead of risking my life in an auto; when I could get pleasure out of the simple things of life, without wrecking the nervous system trying to keep up with the Joneses; when I could travel on the ground and not have to fly because it would save time I could not use to advantage; when I did not have to worry about everything under the sun and contend with all the 'modern conveniences' which do not work just when you want them most; and when I could take home all the money I earned and do what I wanted with it."

Lawrie H. Turner, Chief Chemist for the State Department of Mines, Mining and Geology of Georgia, said in answer to the reunion questionnaire, "Cannot come — too far — too old." Buck up, Lawrie, there are others coming from farther away who are just as old. Carroll W. Brown is keeping busy at his home in Hagerstown, Md., acting as consultant to the Board of Education on several new school buildings being erected in the county. But he is going to take time off long enough to attend our reunion in June and bring Mrs. Brown with him. That's the way to plan, Carroll. George Priest, now in Oklawaha, Fla., says he is working hard seven days a week on construction jobs. W. Scott Matheson was elected an Honorary Life Elder of the Westminster Presbyterian Church of Seattle, Wash., at the last annual meeting.

Miss Abby M. Thompson of 120 Massachusetts Avenue, Cambridge, Mass., died on April 19, 1953, according to a notice received from the Alumni Secretary's office.

Changes of address: James B. Ellery, V, 738 Washington Street, Gloucester, Mass.; Charles L. Kinney, Jr., I, 6 Rt. Box 194 Rockford Ill.; Lewis W. Riddle, 605 Blackstone Place, Highland Park,

Ill.; Fred Wightman, 2918 Woodlawn Avenue, San Marino, Calif.; Herbert H. Dakin, Ocala, Fla.

Of the 135 who were sent questionnaires about their preferences in regard to our 55th reunion, only 25 replied as of February 1. This is rather discouraging to your committee. When you read this, make it a point to answer and thus help your committee, won't you? BURT R. RICKARDS, *Secretary*, 381 State Street, Albany, N.Y. MILES S. RICHMOND, *Assistant Secretary*, 201 Devonshire Street, Boston, Mass.

• 1900 •

Attention, all classmates! June 15 to June 17 will be 1900 days at The Pines, Cotuit, Mass. We will then have our annual get-together. Alumni Day in Cambridge will be celebrated on Monday, June 14. This is our opportunity, not only to meet members of our Class, but also to see friends of other classes. It is always a most enjoyable occasion, and if you haven't attended one, you owe it to yourself to be at the M.I.T. buildings in Cambridge that day. Then on Tuesday, June 15, we will go to The Pines for our real reunion. This will be our fifth meeting there. The reunions haven't been sizable, but those who have attended in the past agree that they are most enjoyable. If you do not know many who are there when you arrive, you soon will, for the common interest in M.I.T. and the Class stimulates friendship. There is no formality—just good fellowship with enough shuffleboard and other similar interests to mix up the groups and keep them together.

As usual, arrangements for accommodations should be made by each one directly with the manager, Mr. C. D. Crawford, Cotuit, Mass. So far as possible, all will be housed in The Evergreen, a very beautiful and comfortable mansion overlooking the water. Get your reservation in early and be sure of a room in The Evergreen—first come, first served. Needless to say, wives, children, grandchildren, and friends will be most welcome.

Llewellyn L. Cayvan reports that he retired from the baking industry on his 75th birthday, January 13, 1954. His address is still 730 Ethel Avenue, Southeast, Grand Rapids, Mich., where, for many years, he has been superintendent of the Hekman Biscuit Company. Welcome to our growing club of the unemployed.—ELBERT G. ALLEN, *Secretary*, 11 Richfield Road, West Newton 65, Mass.

• 1901 •

The replies to the Class Letter have begun to come in, and so far the results are very satisfactory. Before I start on their contents, here is a report on F. W. Puckey whose death I reported in the Class Letter. This was furnished by Langdon Pearse. "Francis Willard Puckey died in Chicago of bronchial pneumonia at 8:30 A.M., Thursday, January 7, 1954. He was born at Wilkes-Barre, Pa., on June 2, 1874. After a preparatory education at Wyoming Seminary Kingston, Pa., he graduated in 1901 from M.I.T. with a B.S. in architecture, followed by post-

graduate studies in 1902. From 1905 to 1906 he studied in the Ateliers of Duquesne and Chiffot in Paris, France. Returning to the United States he was active with Warren and Wetmore, New York, on the design of the Grand Central Terminal and other buildings. He was a member of the firm of Olds and Puckey from 1906 to 1910; with Shepley, Rutan and Coolidge in Chicago, on University of Chicago, Art Institute, and so on, 1910–1915. He was a member of the firm of Puckey and Jenkins, 1916–1952, architects for Nurses Home, Jones Memorial Clinic Building, Childrens' Memorial Hospital, Englewood Hospital, Chicago, Infirmary Building for the Presbyterian Home, Evanston, Ill., Fraternity houses, University of Chicago, University of Illinois, University of North Carolina, many banks, business buildings, residences, and so on. He was a member of the American Institute of Architects and the Chicago Chapter, Society of Beaux Arts Institute of Design, Architectural Club of Chicago (Honorary), University Club (Ex-director), Theta XI (Ex-president), Flossmoor Country Club (Ex-director), Quadrangle Club (Ex-director). For the last six months he was a resident at the University Club of Chicago. He was an Episcopalian, Republican, and a member of various Masonic bodies. On September 5, 1908, he married Eleanor M. Rutan, who died on September 28, 1918, without issue. A sister, several nephews and nieces survive in the East."

The following notes are taken from the Class Letter replies. J. P. Catlin, VI: "After 25 years of service as vice-president of Wood Newspaper Machinery Corporation in Plainfield, N.J., I was retired in 1947. Spent a year as a consulting engineer and decided I wanted to go back to active manufacturing, so in 1949 took a job as president of Virkotype Corporation in Plainfield, N.J., where I have discovered that the way to keep young is hard, interesting work, but I must admit that I have never had to work as hard in business life as I did at Tech." Dennis Haley reports: "Still very active as a mining engineer, mostly as consultant and advisor, but every so often I want to get the 'smell of the underground,' so do some field work. Excellent health but, as is wise, 'keep the fingers crossed'; however, I figure I may make 'four score.'" from Joseph Philbrick, X: "Retired November 22, 1950. Am in reasonably good health. Am active in the Grange, Masonry, collecting stamps of the Confederacy and riding about New England with my family. I would like to know that all the rest of 1901 are as thankful for, and as satisfied with, life as I am."

Nat Patch, II, from Buffalo, writes: "I retired from active business some years ago, although I go to my office at least three or four times a week in the morning in order to be available for necessary signatures and conferences. I am still secretary of the Company and in that office, of course, have to attend all board meetings and stockholders' meetings and make necessary records. If it were not for the cataracts on my eyes, I believe I would have as good eyesight as I had at the Institute, which was about 40 per cent of normal, but now I have to feel my

way around with a cane and have everything read to me. However, I find much pleasure in the radio and in co-operation with my wife in making our home a pleasant one where we can enjoy the visits of our friends and show them our pleasure. Just finished redecorating the house and making a number of repairs and improvements that old man nature forced upon us. I enjoy cooking as a hobby and do a large share of it in the course of the preparation of meals for guests and ourselves. You mentioned the class picture of the 50th reunion. I asked if I could buy one at the time of the reunion in spite of the fact that I was not there, but was informed that it was not available. If such now is available, I would be glad to pay for a copy of that reunion so that I can compare it with the one in 1941, where I did enjoy being with the boys once more. I felt my handicap of eyesight in not being able to recognize the men but I got to know their voices and remembered with pleasure those who were there, particularly Al Higgins, Joe Evans, Phil Moore, and, of course, my old chum Frank Holmes who has since passed away. Frank and I saw much of each other during our school days and I, therefore, did welcome seeing him once again and regret that he had passed on before I could see more of him."

More news from Class Letter replies next month.—THEODORE H. TAFT, *Secretary*, Box 124, East Jaffrey, N.H. Willard W. Dow, *Assistant Secretary*, 287 Oakland Street, Wellesley Hills 82, Mass.

• 1902 •

Hunter has kindly furnished the following information: "Walter P. R. Pember, whose death on December 13 was noted in a recent number of The Review, entered the Institute from the Needham, Mass., High School to take Course IV. Throughout his undergraduate years he was active in track athletics, first as a high and broad jumper, and then as a middle distance runner, winning his 'T' as a member of the relay team. When the option in Landscape Architecture was established, Pember was one of the first of the students to enroll for it. At his graduation he was awarded a graduate scholarship to take a postgraduate year and received a master's degree in 1903. For a year he worked in the Boston office of Guy Lowell, taking charge of the landscape work. In 1905 he took a position with an architectural firm in Buffalo. Two years later he went to Johnson City, Tenn., to be architect for the stations for the South and Western Railroad (now the Carolina, Clinchfield, and Ohio) and architect and engineer for the Unaka Company on a development at Johnson City which would become a junction point. The 'Roosevelt' panic of 1907 stalled this project and Pember tried for three years to build a satisfactory practice in architecture in Johnson City and nearby Bristol, Va.-Tenn. In such a backward region this was difficult.

"In 1910 Pember came North and located with a firm in Albany, N.Y., and three years later went into independent practice. For 40 years he was a prominent architect in that city and resided in Delmar, nearby. Following a thrombosis

three years ago he had limited his personal work to supervision. Schools were an important part of his practice, among them being ones in Berne, Ellsmere, Grahamsville, and Vorheesville, N.Y. Among the churches that he designed were the Westminster Presbyterian and the Church of the Disciples in Troy and St. Stephens at Ellsmere. On New Year's Day, 1905, Pember married Amy Hewitt, also of Needham, who survives him together with four children, Ruth (Mrs. H. Ashton Bell), of White Plains, N.Y.; Edward of Ellsmere, N.Y.; Howard of Westbury, Long Island; and Edna (Mrs. Richard R. Lee), of Huntington, L.I.; and also five grandchildren."

I have gathered some data, though scant, in regard to Earl Pitts whose death was reported in the March Review. He was a native of Fitchburg, Mass., and made his home there the greater part of his life. From 1902 to 1905 he was with Holbrook, Cabot, and Rollins, General Contractors. In 1905 he became associated as manager with the Fitchburg Cotton Mills and remained there until 1911 when he joined the Underwriters Bureau of New England. He remained with them until the retirement age. He is survived by his wife and a son and daughter by an earlier marriage.

Six members of the Class showed up at the Midwinter Alumni event on February 4, namely Bassett, Bourneuf, Hall, Patch, Philbrick and Williams. Those present enjoyed it very much. Dan, as class president, had sent 75 notices to members roundabout Boston, and the percentage attendance was small. Hunter had to go to the hospital the next day so decided not to come. John L. Jones has returned to Florida after a stay in California. His address is Treasure Village, 4th St. North and 52nd Avenue, St. Petersburg, Fla. Bourneuf, after a long residence in Providence, has returned to Melrose and is in the employ of the United American Soda Fountain Company, 101 Walnut Street, Watertown, Mass. — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

• 1903 •

Following our 50th reunion, Clarence Joyce and his wife left for a trip to Switzerland, from which country we had an interesting letter. Among other things, he wrote: "The Secretaries' wrist watches gave me an urge to replace the tin one I have had for some 15 years. Switzerland seemed to be the place to do so as every second shop in Geneva and here, Montreux, has a window full. I had heard, however, that many tourists have had trouble with inexpensive watches when they needed repairs later, so I ordered a watch from a Lucerne dealer who had been recommended. I think it compares favorably with yours but it cost as much as Tiffany would ask. I had a similar experience in Paris where every other shop in the Rivoli arcade had greeting cards in the window. By the time I had selected some good Christmas cards I found they cost more than I ever paid at home. On the other hand a double room with balcony and full board here is quite reasonable. This is called the Swiss Riviera, and rightly so. There is a

promenade along the lake front for some five miles. It is shaded with trees, gardens full of flowers lie between it and the hotel. At night the fountains and trees are floodlighted. I recommend this spot for any '03 man who wants a real vacation."

After writing the foregoing, your Assistant Secretary closed up his house in Cape Cod, and headed for the Pacific Coast. He traveled by bus down through the south — Atlanta, New Orleans, San Antonio, Phoenix, to Los Angeles. In Atlanta, Mitchell, and R. R. Jordan met me for lunch, and we spent a delightful afternoon together, checking up on old times and classmates. In San Antonio, we missed seeing Gaenslen, after talking with him on the 'phone. In Los Angeles, we called on Walter Adams, and had a pleasant call. In San Pedro, we picked up George Clapp and drove to Redondo Beach where we found Fred Crosby and his wife and had dinner with them. Fred is now retired after acting as representative for the Morgan Construction Company on the Pacific Coast following his moving from Worcester. Clapp, however, is as busy as ever laying out real estate developments in the vicinity of San Pedro. A trip to San Diego, and a 'phone call brought Casper Schmidt into the city to take me out to his house in La Jolla, where, with his wife, we had lunch and a pleasant afternoon driving about that beautiful suburb of San Diego, in spite of the fact that it rained the whole time. The rain was very welcome to Californians as they had not had any for a long time. Cas and his wife are very pleasantly situated, retired, but both apparently in excellent health. At this writing, February 7, I am in Santa Cruz, planning to go up to San Francisco in another week. Then I hope to check up on several of the Class who live in that vicinity.

A brief notice from the Alumni Register, informs us of the death of Edwin Farnham Greene, in New York City on December 6, 1953. No details. We tried to see him a year ago last January, but he was out the day we were in the city. He took Course II with the Class. A clipping from the Newark, N.J., *News* of January 14, carries a picture of McMenimen and his wife, and an account of the celebration of their 50th wedding anniversary. Our hearty congratulations to them both and a wish that they may be in health for the 60th anniversary.

Since being in Santa Cruz, we called on Eddy and had a pleasant afternoon with him and his wife. Eddy's pet hobby, apparently, is carving figures in jade and other materials. This is a new consideration for men who have no hobbies and are, or are about to be, retired. Sorry that there was no record of the Class in the March issue, but as you may see, Cushman was traveling all through the month of January when the notes were due. — FREDERICK A. EUSTIS, *Secretary*, 131 State Street, Boston 9, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, Box 103, South Wellfleet, Mass.

• 1904 •

As was noted in the February notes by the Active Secretaries, notes and items of interest are scarcer than the proverbial hen's teeth. I returned to Whitney Home-

stead last evening after a week spent in Allston during which I talked on the phone with Carle and Gene and found that arrangements for the anniversary are progressing smoothly and that by the time you read these words, you will have undoubtedly received the official program. Many of the "hope to comes" have stated formally that they will be present. That is all I know about the anniversary week now, except that Mrs. Stevens and I expect to be at Oyster Harbors. If any of you readers are wavering, now is the time to make up your minds to go, and to take your pen in hand and fill out the proper blanks to let us know you are attending.

You will remember that in the March issue we published some letters I had received as a result of the January plea. Since then I have received another from Charlie Haynes and another from Dwight Fellows, which I will share with you all. Under the date of January 27, Dwight writes as follows from Bonita Springs, Fla.: "I wrote you that I would let you know if, as, and when, I came down to Florida. I arrived here last Saturday night and will probably make this my headquarters although there are several trips I plan to make, such as down to Key West again and over to Lake Wales, and so on, but any mail will reach me here, care of General Delivery. Last Saturday A.M. I turned off from Route 301 and drove west to the Gulf and stopped at New Port Richie to visit Walter Hadley. I found him and Mrs. Hadley looking fine, and I had a very enjoyable visit with them. They have built a most attractive house on the River and plan to make their home down here from now on. They left Connecticut last August. They are both coming up to the reunion next June and are looking forward to it. When I left them I drove on down to Clearwater Beach, called on Bob Faulkner and his wife, and had a fine visit with them. They both are very well and inquired, too, for everybody, but I was unable to get Bob to change his mind about the reunion. He still does not plan to come. Now here is an interesting thing — I had not seen Walter Hadley for almost 50 years, and it is surely 45 years since I last saw Bob Faulkner, but I recognized them both right away and they actually called me by name without a clue which must prove something — either their faculties are amazingly keen, or else I do not look as old as I thought. Well, anyway, it was a great pleasure to me to see them all and we did have a couple of good visits.

"I have been spending some time at the beach trying to hurry along my sun burn and tan, but especially to get some sun on and into my old back. The sun is hot but the water is a little chilly yet, not for me, but for my arthritis. I was just out in the garden at this little hotel and saw grapefruit a little smaller than basketballs hanging so high I could not reach them — that is easily — but I managed. They sure taste good that way — right off the trees before they are quite ready to fall. I hope you are feeling fine and taking good care of yourself. Please give my very best to Gus, Gene, Ed Parker and Carle Hayward when you see them.

It was not a pleasant trip down this time. First icy pavements through New Jersey and New York, dense fogs and rain in Pennsylvania and Virginia and then rain in the Carolinas and the cloudbursts (terrific) coming through Georgia. But as soon as I hit Florida the weather was perfect. I also hope I may hear from you while I am here and get the news. Sorry I did not get out to see you again before I left home. I notice that the sun is setting over the yardarm so I have my duties to perform very shortly. Wish you were here."

Those of you who read the January notes will recall that Charlie Haynes wrote that if he could get Charley Hoy to attend they would probably take the prize for high course attendance. They were Course X. I wrote him that I could not see how he, Willard, and Hoy would make three quarters or 75 per cent of the remaining members of Course X. His letter quoted here in full attempts to explain. He is still wrong in spite of his dragging "logs" out of his lumber yard, because the list of living 1904 men who were in Course X shows eight names, and three out of eight is not 75 per cent or $\frac{3}{8}$. It was a good try, Charlie, but, of course, the high course attendance will go to Course XII, whatever that was, and Paul Paine is the only living member of that Course, and he has said he will come. The prize will no doubt be a fur-lined bath tub, or a set of rubber golf clubs, or a plastic boat. Something the winner will no doubt be glad to win. Charlie's letter follows: "It was fine to hear from you in such a comprehensive letter. There are only one or two items to be cleared up before we greet each other at Erster Hahbahs. I shall write Charlie Hoy very shortly. Now as to my mathematics. There were eight in Course X who completed their junior year in 1903 — Bartlett, Burnham, Finnegan, Haynes, Hoy, Rodgers, Underhill and Millard. Rodgers did not return in the fall that year but the rest of us fought the profs, and each other, to a graduation status. The first three named have departed this life. (I sure hope that the w.k. Angel is not planning to keep on alphabetically!) so that leaves four.

Now: $\log 3 = 0.47712$

$4 = 0.60206$

subtracting $9.87506 - 10$

The autilog of this number is .7500, so that is why I used the 75 per cent figure. Who t-h—the other four guys are I can't figure at all. Regarding Paul P., you wouldn't remember him as you were only a premier danseuse! I was a beautiful chorus girl (third from the left, the one with the knobby knees). Ask my partner Selby Haar if I wasn't fancy! It is interesting to hear that Tammy shoots near 100. I remember the deadly accuracy of his short game from the outing at Plymouth. I, too, no longer flirt with the 90 mark. Curtis will have little competition. Hope you are getting numerous letters from all and sundry."

A few comments on Charlie's letter: Of course if he is talking about "graduates" he may be correct, but with us Secretaries, any man who was ever on the class rolls for any period at all, is a 1904

class member, and enjoys all the prerogatives of that status, including his right to be clipped for "assessments" when they are necessary. Financially, we have got along very well without class dues. I don't remember Paul Paine singing in the "Grand Duke" but I do remember him as the baritone horn player in the Freshman Band when I played the bass drum. As regards Charlie's fancy looks as a chorus girl with knobby knees, I don't have to ask Selby Haar for his opinion. I have my own opinion. As for Charlie's hopes that I am getting numerous letters from "all and sundry," well, I am getting "sundry" letters — neither "numerous" nor from "all." I hope when you see what we can do with a little response, then some more of you will get the urge of authorship. That is about all I can get out of the responses from members of the Class — good but not enough. The rest of these notes will have to come from elsewhere — perhaps "out of the blue," which may be a good way to describe a wind devoid of ideas.

I see from time to time a column in the *Saturday Evening Post*, entitled "Do You Remember When?" There is a picture of some event and a short article about it. Some time ago there appeared in that column a picture of Volts Ovington taken in 1911. He was seated in a plane of that vintage open to the wild winds; of course, Postmaster General Frank Hitchcock was handing Earl a mail pouch. It was the first air-borne mail pouch and marked another "first" by a 1904 man. What the other firsts may have been, I don't remember, but naturally there must have been some. The flight depicted was on Long Island and was all of six, seven, or 11 miles, but it was definitely the first air-borne mail. The little article was by Adelaide Ovington in which she said that Earl was so busy flying the plane that when he delivered the pouch he had to kick it out of the plane with his feet, and when it landed on the ground, the pouch burst and its contents were somewhat scattered. But the first air-borne mail had been accomplished. Another picture showed a Stanley Steamer making a run up Mount Washington. Our classmate Joe Crowell was a Stanley Steamer enthusiast, and owner, and was well acquainted with the Stanley Brothers, the inventors and manufacturers of the car. I remember seeing a picture of Joe and one of the Stanley Brothers in a Stanley car on the top of Mount Washington after making his run. The picture in the *Post* was taken on the run up the mountain. There were two runs in the car but the picture was so small I was unable to make out whether it was Joe or not. At any rate I know he made one such trip at least.

Now that's all I have about us for this time. By the time you read these lines, we will have had to produce something on March 15 to amuse or interest you in May. It is our earnest hope that some more of Charlie's "all and sundry" will give us something to work with. Will be seeing you during our 50th anniversary week. — HENRY W. STEVENS, *Secretary*, Whitney Homestead, Stow, Mass.

• 1905 •

I had intended to write the notes for the March Review at the Melrose Hos-

pital, Mass., where I had gone for an operation on January 13. I had not realized the discomforts and inconveniences of recuperation, so that when I arrived at home it was past the "due date" for notes. Since recuperation apparently takes another month, I may be doing the same thing here next month.

I called on Burton E. Geckler, IV, at his architectural office in Springfield in January, found him plugging away on a one-man office basis, principally designing new homes in his area. We have heard little and seen less from Geck since graduation, but in his heyday he designed about one hundred Roman Catholic churches in Western Massachusetts, and was apparently quite an authority on church architecture. Without any bragging he compared his rise from a midnight newsboy (at the corner of Tremont and Boylston Streets) during his M.I.T. days, to the successes as mentioned above. One of his hobbies was Masonry, and he organized the first Patrol for Melhar Shrine in Springfield. He seemed to be in good health with no thought of retiring, although he has very appreciably scaled down his operations. Geck has two sons in business not far from Springfield, and five grandchildren.

The same day I called on George W. Prentiss, I, in Holyoke. George is another classmate who has secluded himself from class functions and contacts. He is carrying on the steel and wire business, which his father and grandfather did before him, one of the eminently successful businesses of Holyoke, Mass. George still has the same powerful physique, seems good for many more business years. Incidentally, he said that his father at the age of 98 was still in excellent physical condition.

A letter from Walt Whittemore, in Houston, Texas, indicates that his physical condition will prevent his attending any future class affairs. He has a congestive heart condition, finds breathing difficult, at times necessitating the use of oxygen to ease the situation. Art Belding, II, is back in New York (220 Madison Avenue) although a letter seeking news as to the change brought no answer. Bob McLean, II, is still plugging along, doing a good job as Class Agent. Not having enough to do, he sold his house in Bridgewater, Mass., and is now building (perhaps supervising) a new one in West Bridgewater. Dan Harrington, X, writes: "I retired from active employment with the DuPont Company almost seven years ago, although I am still a director of the company and hold membership in a couple of its committees. I amuse myself when I find spare time, mostly playing golf. Being retired from active duty is not always what it sounds like."

Grove Marcy has volunteered to assist the Secretary in reviving his old baby "The '05 Flivver." This we expect to help arouse interest in our 50th reunion. With luck you may receive a resurrection of the old jitney by the time you read this issue. Speaking of reunions, several of those who have been in the habit of getting together on Cape Cod each June have insisted on a repetition this coming June. No date has been set, but those who wish to renew the habit, or start a new one,

may be assured that we will foregather at one of the hotels we have patronized at Osterville on one of the week ends in June, probably the third or fourth.—FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston 10, Mass.

• 1906 •

Seven members of the Class attended the Midwinter Meeting of the Alumni Association held at the Walker Memorial on February 4. They were Sherman Chase, Carroll Farwell, George Guernsey, Tom Hinckley, Chester Hoefler, and Secretaries Kidder and Rowe. The "Scientific Bat" consisting of brief presentations by three members of "Research Row" (National Research Corporation, A. D. Little, Inc., and Godfrey L. Cabot, Inc.) with our class contemporary, Horace Ford, as the witty M.C., reminded us all of the progress science has made since our days on Boylston Street and how some of the offspring of M.I.T. are contributing to this progress.

By the time you read this Christmas will seem "long gone," but classmates will be interested in the fact that Dr. L. D. Smith sent Chester Hoefler a picture from the Milwaukee *Sentinel* portraying the Doctor as playing Santa Claus to his child patients and former patients at his annual Christmas party. The picture showed at least 40 youngsters with hands outstretched toward Dr. Smith who was standing above the crowd at the rear center tossing candy from a box. The reference to Santa leads to the thought of gifts; therefore, this might be a good time to refer to our Alumni Fund and our 50-year celebration two years from now. Your class officers have already had some discussions on the subject. Our Vice-president and Class Agent, Sherman Chase, has advised that any contributions made by classmates to the Alumni Fund will also be credited to our 50-year gift, if the donor so designates, when the contribution is forwarded. Readers will not need to be reminded of the advantages of this arrangement, so please be sure your increased fund contribution is designated to be also credited to our 50-year gift. In connection with our 50-year celebration, Class President Coes has requested the Secretary to serve as General Chairman of the 50-year reunion. The Secretary has expressed a desire to assist as much as possible but prefers to consider himself as a cochairman with Vice-president Sherman Chase who has already accepted the responsibility for the work on the Class gift, as it is closely associated with the Alumni Fund. For a successful 50th, much work will be required and it will be necessary to develop a complete organization to handle the details involved. There are now about 300 names on the Class list, many of whom have shown little or no interest in Class affairs. We should do our best to contact as many as possible of these 300 and have them with us in June, 1956—more of which in later issues.

A letter under date of February 10 received from Harold Coes advised he had to be in Dallas around the first of the month to attend a conference and that he was lecturing to a group of Army officers the week of the 15th. He and Mrs.

Coes will sail on the *Nieuw Amsterdam* on a Mediterranean cruise on March 26, leaving the ship at Southampton, April 30, for tours in the British Isles, returning home on June 2. Harold will give a lecture in London.

Your Secretary regrets to report the passing of another classmate, Ralph G. Stebbins, IV. The following notice of his death was taken from the Boston *Herald* of January 27: "Ralph G. Stebbins, 72, of 554 Pleasant Street, Milton, a Boston architect for 47 years and designer of many public schools in New England, died yesterday. He was senior partner of Cooper Associates and had been active until two weeks ago. His designs included the North Quincy Junior High School and the addition to the Somerville High School, as well as many others. He also contributed material to the National Education Association's report on the standardization of schoolhouses. Born in Cleveland, he was graduated from the Massachusetts Institute of Technology in 1906. He leaves his wife, Margaret McDonald Stebbins; three sons, Ralph G., Jr., of Wollaston, George E., of South Boston, and Charles D., of Weymouth, and a daughter, Mrs. William Gallagher of Milton."—JAMES W. KIDDER, *Secretary*, 215 Crosby Street, Arlington 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills 82, Mass.

• 1907 •

Frederic B. Schmidt, who for many years was a prominent architect in Chicago, died on December 9, 1953, after a long illness that had kept him incapacitated more or less for five years. He is survived by his widow, whose home address is 939 Maple Avenue, Evanston, Ill.; by a son, Frederic P. Schmidt; and a daughter, Mrs. Richard Wolfe. The above information was furnished by our loyal classmate, John Frank of Chicago.—In a letter from Frank MacGregor dated February 2, from his winter home in Tryon, N.C., he wrote: "Whom should I meet outside of church last Sunday but Mrs. Lawrence Allen (widow of our much beloved classmate, Lawrie). She lives here except during the summer when she goes to her place in Maine. Also a few weeks ago the author, Mary Calkins Banning, said she had heard about me from either her sister or sister-in-law, I'm not sure which, who is Don Robbins' wife." So it goes—a small world, and so on!

On January 26, at a meeting of the American Society of Civil Engineers held at the M.I.T. Faculty Club in Cambridge, Mass., Phil Walker was awarded a life membership in the organization in recognition of his 35 years of active affiliation with it and of his accomplishments in the field of civil engineering.—A printed notice dated January 29, 1954, prepared by the comptroller of Seaboard Air Line Railroad Company at Portsmouth, Va., announced that on February 1 Thomas W. Roby, valuation engineer, was to retire under the company's retirement plan, "after 40 years of outstanding and valuable service." Roby received the degree of master of science in civil engineering with our Class in 1907, having been

awarded his B.S. from Virginia Military Institute in 1904.

Early in February Phelps Swett, who lives in Middlebury, Vt., sent me a clipping from the November 22, 1953, issue of the Tulsa, Okla., *Daily World*, which had been given to him by a Middlebury acquaintance who is a friend of Stud Leavell. The heading for this clipping is, "Col. Leavell gives college education fund to assist boys of Tulsa home." The article reads, in part, as follows: "Col. John H. Leavell, Tulsa oilman, believes in college education and he gives more than lip service to his belief. Saturday, Milton Singleton, director of the Tulsa Boys' Home, announced that Leavell has given 100 shares of stock to establish a college fund for residents of the home. Although Singleton said he could not appraise the value of the stock, it is said to be worth in the neighborhood of \$25,000 with earnings of approximately \$2,800 annually. Between \$1,200 and \$1,400 annually will be available for education purposes. 'I thought those boys were at a disadvantage,' Leavell said. 'Even if they win scholarships, they face the problem of maintaining themselves at college. They face so many problems in attaining a college education that they are tempted to discard the idea and take jobs instead.' Leavell pointed out that if boys at the home know they have an opportunity to go to college, it will be an inducement for them to apply themselves more diligently to their school work. The agreement stipulates that aid be given to boys who wish to earn degrees in engineering, physical science, biological science or mathematics. 'I'm an engineer and I suppose that influenced me,' Leavell said. 'However, my feeling is that there are no "cinch" courses in engineering and by making the stipulation, boys of more than average ability likely will be benefited by the fund.' Leavell mentioned that boys who borrow from the fund will be asked, if practicable, to include R.O.T.C. or similar training in their college programs. In the event the home ceases to exist, or is taken over by a government agency, the funds will revert to the University of Tulsa to be used for scholarship loans, Leavell said. 'The gift fills a tremendous need at the home,' Singleton said. 'It's the first gift of its kind and I can't begin to say how greatly it is appreciated.' Leavell, who also has coal interests, is a world traveler and World War I hero. He holds the Distinguished Service Cross and the Croix de Guerre and in World War II served his country as a petroleum attaché with the State department.' We certainly are glad to have had news of a "long-time, no-hear" classmate.

The total contribution of our Class to the M.I.T. Alumni Fund for 1954 increased substantially during last December, largely due to the gift of over \$1,000 from one of our classmates. As of December 31, 68 '07 men, or 25 per cent of the class roll, had contributed \$3,226. If any of you who are reading these notes have not yet mailed in your check, won't you do so now, while the matter is on your mind.—BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

• 1908 •

The second dinner meeting of the 1953-1954 season was held at the M.I.T. Faculty Club, Cambridge, Mass., on January 20, at 6:00 P.M., with the following on deck: Bunny Ames, Jeff Beede, Bill Booth, Nick Carter, Myron Davis, Leslie Ellis, Sam Hatch, Winch Heath, Steve Lyon, Linc Mayo, and Joe Wattles. Following suitable post prandial libations in the cocktail lounge, we adjourned to our private dining room for the usual excellent dinner. Joe Wattles kindly showed some fine Kodachromes which he took last spring during his Mediterranean cruise on the Dutch Line. As you will remember, he and Mrs. Wattles took this cruise on their way to the Rotary international meeting in Paris. His pictures of Casablanca, Algiers, Venice, Rome, and so on, were particularly fine. Joe is getting to be nearly as good a narrator as Mrs. Wattles. Joe also showed some nice pictures taken by Bill Booth, who recently became a Kodachrome fan.

The Class was represented at the Midwinter Alumni Meeting at Walker on February 4 by George Freethy, Clarence Clark, Jeff Beede, and his son of the Class of '35. Philip Brown is serving on the committee recently appointed by the Mayor of Dover, N.H., to study the city's water supply and make recommendations.

How about sending in some news? You fellows who visited Florida or California this past winter, or who took a Caribbean cruise — why not write us about it — so we can relay it to the rest of the Class. — H. LESTON CARTER, *Secretary*, 14 Roslyn Road, Waban 68, Mass. LINCOLN MAYO, *Treasurer*, 47 Alton Place, Brookline 46, Mass.

• 1909 •

At the Midwinter Alumni Meeting held in Walker Memorial on February 4, the Class again had an unusually large representation, there being 11 of us besides two sons of classmates, John Congdon '56, son of Howard Congdon, I, whom we have already mentioned several times in these notes, and Francis J. McCarthy '49, son of John McCarthy, I. Francis is now studying medicine at the Tufts Medical School. Class members present were: Howard Congdon, I; President Jim Critchett, VIII; Johnny Davis, II; Chet Dawes, VI; Francis Loud, VI; John McCarthy, I; Joe Parker, I; Art Shaw, I; Chick Shaw, V; Henry Spencer, II; George Wallis, II. There were so many of us present that the '09 table was far too small, and some of us were obliged to spill over to adjacent tables belonging to other Classes. John McCarthy is still teaching mathematics at Boston English High School and says that every year some of his students enter the Institute where they can apply their mathematics to higher engineering problems.

An hour before the meeting Francis Loud called a meeting of his Reunion Committee to choose a meeting place for the reunion as well as to make other necessary plans. Besides himself and George Wallis of the Committee, Jim Critchett, Johnny Davis, Art Shaw, Henry Spencer, and your Secretary were present by invitation. Harry Whitaker, VI, the third

member of the Committee, could not be present but he is taking care of the New York area. After giving due consideration to the several meeting places that were available, Chatham Bars Inn at Chatham, Mass., on the Cape was unanimously selected. Before these notes arrive, you undoubtedly will have received the first announcement of the reunion together with a descriptive folder showing pictures of the Inn and its location. Jim Critchett, who lives nearby, also recommends it highly so there is no need of our describing its excellent appointments and facilities for recreation. For entertainment the Committee believes that the Class will be most interested in any pictures or Kodachromes that members may have of their families or travels. So if you have any, be sure to bring them along. A screen and projectors will be provided. In any event, come and bring your family and make the 45th as successful as the 40th was.

Molly, XI, our Vice-president, reports from New York that Franz Schneider, Jr., VII, has just been appointed a member of a 14-man committee to co-ordinate the work of five separate Task Forces of the Hoover Commission of the Executive Branch of the Government in studies of the Department of Defense.

We have received notice of the death of Harold Ballard, I, on January 13 in New York City. He was a member of the engineering firm of Ballard, Sprague and Company, Inc., which was organized something like 35 years ago. Harold was a member of the New York '09 group which under the leadership of the late Paul Wiswall became an active class organization in itself. Quite a few of us on different occasions have attended luncheons or dinners arranged by Paul at which Harold was almost always present. He prepared for the Institute at New Salem High School in Franklin, Mass. Because of his being in Course I and having an initial near the beginning of the alphabet, his is the first name and photograph in the class album. — CHESTER L. DAWES, *Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: HARVEY S. PARDEE, 549 West Washington Street, Chicago 6, Ill.; MAURICE R. SCHARFF, 366 Madison Avenue, New York, N.Y.; GEORGE E. WALLIS, Wenham, Mass.

• 1910 •

It is with extreme sorrow that I have to announce the passing of Charles Almy on January 22. The following is from the *New York Times*: "Charles Almy, co-founder of the Dewey and Almy Chemical Company, died last night in Phillips House of the Massachusetts General Hospital, Boston, at the age of 65. He had been ill since the beginning of the year. Mr. Almy, who retired December 31, had been a consultant to the Dewey and Almy Company for five years after his resignation as executive vice-president in 1948. Born in Cambridge, the son of the late Judge and Mrs. Charles Almy, he was graduated from the Browne and Nichols School in 1904 and from Harvard in 1908. Two years later he took a degree in chemical engineering from Massachusetts Institute of Technology. In World War I, Mr. Almy served in the

Chemical Warfare Service of the Army as a lieutenant colonel. In 1919, with Bradley Dewey, he formed the Dewey and Almy Chemical Company, serving the can-making industry. He was active in foreign trade circles and devoted himself to the development of the business for the company in the United States and other parts of the world. He was a director and member of the executive committee of the corporation. He was a member of the Union Club of Boston, the Harvard Faculty Club, the Cambridge Club, and the Army and Navy Club in Washington. Mr. Almy was widely known in the industrial fields and as the author of many trade paper articles."

I had a letter from Walt Spalding, excerpts of which follow: "Romalda and I are just back from a 16,000-mile trip around the North Pacific shores. First we went by Navy ship to Guam, via Kwajalein and Eniwetok; then by Pan American to Manila, then Hong Kong and then to Tokyo. Four entirely different worlds. All four are very busy but with a pretty fragile type of prosperity not likely to last very long. I am impressed with the fact that Russian communism could soon gather in (without a war) the Philippines, Hong Kong and Japan, if we were to withdraw our interest in their welfare. Our victory in World War II left us with a responsibility (in our own protection) for the peace and the prosperity of all these places. However, I think the United States is aware of this and doing pretty well at it. All these countries are fascinating, especially beautiful Japan and Hong Kong."

"We left Yokohama by Navy ship for Seattle by way of Adak in the picturesque Aleutian chain, and we flew home via Portland and San Francisco. I tried to contact Masaru Kametani '25, the President of the M.I.T. Club of Tokyo, but failed. I had a good talk with Maurice Anderson in Seattle. Andy has spent his every evening for almost two years at his wife's bedside in the hospital where she is slowly recovering from a heart ailment. However, he is hopeful and as cheerful as ever — quite a fellow. I found a raft of work awaiting my return, but my trip, while exciting, was also restful, so that I enjoy 10 hours a day and a six-day week working on architectural and engineering projects — a university library, an eight-story apartment house, tropical-type housing for the Navy, a sea wall, and so on. Christmas aloha to you and yours, and to the classmates you see."

The following is from the *Framingham News*: "At the meeting of the Framingham Engineers club last evening at Emrich hall, Grace Church, Dr. Francis B. Silsbee, chief of the electric division, National Bureau of Standards, discussed the present status and impending future changes in fundamental standards of length, mass, time, temperature and electricity. He also discussed at length the function of the National Bureau of Standards. Dr. Silsbee, who has been with the bureau for the past 40 years, graduated from M.I.T. and received his Ph.D. from Harvard in 1915."

The Midwinter Alumni Meeting was held on February 4, where a good dinner was served and a very interesting pro-

gram was given. The 1910 men who attended this meeting were Abbott Allen, Sam Cohen, Art Curtis, George Lunt and your Secretary. — HERBERT S. CLEVERDON, *Secretary*, 120 Tremont Street, Boston, Mass.

• 1911 •

It was a 5-3-1 split for civil, electrical and mechanical engineering on February 4 when nine Eleven men were present at the Annual Midwinter Alumni Dinner Meeting at Walker Memorial. Course I representatives included Henry Dolliver, Bill Fortune, Fred Harrington, Carl Richmond and O. W. Stewart, while from Course VI it was George Cumings, Cal Eldred and your Secretary, with our popular Assistant Secretary, Jack Herlihy, alone from Course II. The story of the interesting program, featuring "Research Row Along the Charles," was featured in the March Review, but as usual there was an enjoyable dinner and opportunity to renew acquaintance during the dinner and social interval which preceded the main program.

George Cumings said he had gone to the B.A.A. track meet at the Boston Garden the preceding Saturday and enjoyed it immensely — his first track meet since his heart attack in 1951. By the way, George is right in the pink now and his life of retirement is thoroughly enjoyable. It was nice to hear from Jack Herlihy that he also has seemed to adjust himself rather readily to his retirement from Boston Edison, which took place last November.

Cal Eldred says he is enjoying his consulting engineering work, which he carries on from his home at 24 Canterbury Road, Winchester, while both Carl Richmond and O. W. Stewart thrive and have many, many outside interests to keep them going. Fred Harrington had an unfortunate curbstone fall in late January in Boston and that day was the first time he had had his left arm out of a sling, as he suffered a bad shoulder injury.

Bill Fortune has changed his residence, remaining in Roslindale, but at 10 Habey Street instead of former 4 Orange Street. He is currently employed at Woodside Cottages, Prospect Street, Framingham — and speaking of Framingham (my home town), I was there on business the afternoon preceding the dinner, so spent the night with Roy MacPherson, II, and Ina. Roy is still active with the HomeLite Corporation at their Allston New England headquarters; in fact, I drove in town with him and then went to Quincy to attend a meeting of the Massachusetts Association of Commercial Executives the day of the dinner.

I also learned at the Midwinter Meeting that John Urquhart, XI, has retired from the International Shoe Company, where for so many years he has been general manager of their Manchester, N.H., plant. He plans to remain in Manchester and a number of his plant associates surprised him just before his retirement and presented him with some fine woodworking machinery, for installation in the basement of his Manchester home for the practice of his favorite hobby. Watch your fingers, John!

Ban Hill, I, who writes that, like Eldred, he is enjoying consulting engineering operating from his Baltimore home, was the hero of a story entitled "A Simple, Light, Inexpensive Contact Goniometer" in the December, 1953, issue of *The Physical Therapy Review*. He is referred to by the authoress as one "who on numerous occasions has given generously of time and materials to design and construct equipment which proved invaluable to handicapped patients and of great satisfaction to those working with or living with them."

According to the article, Ban has designed two calipers (one for the large joints and another for the small joints), both of which could be used with a single, unattached protractor. This equipment served two important purposes: one, it enabled accurate measurement of the joints so that the record showed a true picture of the progress of the patient; and two, it served as a stimulus to the patient, motivating him into working a little harder. Preceding a description of them, Miss O'Neill says: "These appliances were so light, simple and inexpensive that we believe they may be of interest to others." The article is illustrated by sketches of the large and small calipers and the plywood protractor by Ban himself, reminiscent of mechanical drawing days with Schwamb and Merrill at Tech!

Bill Martin, VI, former vice-president in charge of station apparatus and outside plant development, quality assurance, and design engineering of Bell Laboratories, Inc., has accepted an appointment from the government to serve as deputy assistant secretary of defense for applications engineering. He assumed his new post in the Pentagon in January and reports to Frank D. Newbury, Assistant Secretary of Defense. Like Ban Hill, a Baltimorean, Bill was graduated from City College, Baltimore, in 1906 and then received bachelor of arts and bachelor of science degrees from Johns Hopkins University, and M.I.T., respectively. He had been with A.T. and T. and Bell Laboratories ever since graduation, with the latter since 1934. He is making his Washington home at the Brandywine, 4545 Connecticut Avenue, N. W., Apartment 826, phone Emerson 2-2600. That gives us two Martins in the Capital — this William Hennick Martin, and our '07 associate, William Harry Martin, I.

Fred Daniels, VI, a senior trustee and life member of the corporation of Worcester Polytechnic Institute, delivered the charge of office on February 13 when Alvin E. Cormeny, former industrialist, was installed as president. Fred said that W.P.I. had always stood for the highest standards of education, adding: "It is clear that the young men of today will have even more influence in the world of tomorrow than they have ever had before. . . . Only with your intelligent and conscientious leadership will this trust be carried out in a manner equal to the standards we have for ourselves over the years. . . . The Institute has distinguished and able teachers, and the support and loyalty of men who are strong civic leaders. It has prospered in a material way. On behalf of the trustees, I charge you to perform faithfully the trust we are

placing in your hands; and in that endeavour you have the assurance of our help and our prayers for your success."

Hal Hallett, III, dropped in to say "hello" while en route to an inspection of the former Baldwinville Cottages for Children. He says he is greatly enjoying his work as chief supervisory engineer, statewide, for the State Division of Building Construction.

From the Alumni Office we learn that one of our Course V classmates has been elevated to the bishopric in the Catholic Church in northern Vermont. Congratulations to the Right Reverend Thomas J. Burke, St. Francis Rectory, North Main Street, Burlington, Vt.! Also had a card from Erv Young, I, 54 Warwick Street East Orange, N.J., expressing regret at his inability to be present at the 1911 luncheon in Manhattan in mid-January and another address change at hand is that of Frank C. Dolke, XIII, 1421 West Ninth Avenue, Spokane 43, Wash.

As of January 31, three Classes — 1905, 1907 and 1911 — are tied for second place with 27 per cent of Class contributing in the Alumni Fund, the combined early Class (1884-1895) leading with a remarkable figure of 28 per cent. Geographically, classmates in metropolitan New York lead the 1911 parade with 18 of 49, or 37 per cent, subscribing, followed by Boston and vicinity, where 24 of 76, or 31½ per cent have given, the next two best sections, Middle Atlantic states, New York and New Jersey, 12 of 39, or 31 per cent, and the Midwest, 10 of 34, or 29½ per cent. There is still time to swell this 1953-1954 total for our Class so take care of it if you have neglected to up to now. Here's hoping you'll all have a Happy Easter! — ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Gardner, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

• 1912 •

Word has just reached us of the death of Richard L. Hartwell of Littleton, Mass., who passed away on September 15, 1953. Dick had been with the Automatic Sprinkler Corporation, 89 Broad Street, for many years.

Your Secretary met Milton Kahn at the World Federalist dinner recently and learned that he has just been made a member of the National Jewish Tercentenary Celebration to be held this year. Milton has been chairman of the Brandeis University Associates and has traveled and spoken before gatherings as far west as Chicago. He has been very successful as the Associates now number over 6,000 with membership at \$1,000 apiece. Milton is also a member of the Boston Public Library Centenary Committee. George Sprowls, Manager of the Highway Transportation Department of Goodyear Tire and Rubber Company was in Boston recently, and was good enough to call me on the phone. He is leaving for a West Coast trip shortly but will be back in time to be at Snow Inn with us in June.

Word has reached me that Bernard H. Morash has recently had a serious illness and for some time was given a small chance of recovery. The new drugs, however, have saved him, and he is now in a

sanatorium where he must stay for a year for complete recovery. He would be more than pleased to hear from any of you who care to write him at his home address, 21 Tullis Drive, Toronto, Ontario, Canada. His wife Carolyn had been seriously ill and just returned home from the hospital where she is recovering.

The interim reunion at Snow Inn, Harwich Port, the week end of June 12, is off to a good start. The following have already advised that they plan to be there with their wives: Fred Barker, Harry Coddington, Jim Cook, Milton Kahn, Ham Merrill, J. Pratt, Clarence Reiman, Karl Rowley, George Sprowls, Lester White, and Fritz Shepard. Won't you drop me a line now saying that you will be there, and make your own arrangements with the Inn for arrival and departure. — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. *Assistant Secretaries*: LESTER M. WHITE, 4520 Lewiston Road, Niagara Falls, N.Y. RAYMOND E. WILSON, 8 Ogden Avenue, Swarthmore, Pa.

• 1913 •

Well, classmates, my pithy, breezy, styled letter certainly did flush some of you birds out of the covert of complacency. Many interesting notes and letters have been received from some who have been dormant, or nearly so, for years. Thanks for your help. Your news means our class notes.

Several of our correspondents sent checks but no news. We wish to thank our financial backers: Thomas Byrne, Fort Worth, Texas; F. C. Weiss, Birmingham, Ala.; Henry J. Welsh, Quincy, Mass.; Victor Mayper, N.Y.C.; James M. Beale, Boston, Mass.; Max L. Waterman, Bridgeport, Conn.; George H. Taber, Jr., Rye, N.Y.; John Parks, Woodbridge, Conn.; Charles Edison, West Orange, N.J.

Emerson L. Bray, Upper Darby, Pa., is planning to attend our next reunion with his wife. He suggests a repeat visit to Oyster Harbors Club, Fred O. Stillman, Carteret, N.J., after 20 years of research in metallurgy with U. S. Metals Refining Company, retired on October 1, 1953. At the young age of 65 he has entered a new business venture under the name of Stillman's Television and Radio Service in Carteret. You cannot keep a good Tech man down. Good Luck, Fred. Clarence Berry of Baltimore, Md., does more traveling than a sailor, to quote: "My biggest divergence at this time is carrying on the duties of regional vice-president of the Illuminating Engineering Society. Incidentally, this is the year of Lights Diamond Jubilee commemorating the birth of Edison's first electric lamp 75 years ago. This all adds up to lending more interest in the lighting industry. Last week I was in Richmond, Va., helping to organize a new I.E.S. Chapter at that location. I am kept busy going to meetings in New York, Pittsburgh, Philadelphia, and Washington carrying on I.E.S. work, and I find this very interesting. I certainly enjoyed the get-together we had at Oyster Harbors and was glad I attended." William F. Wallis, Washington, D.C., has been retired since 1939, except for six years during World War II, when recalled for war work. Brother Wallis will be 80 years old

in June. We wish to offer a motion that we confer a life membership to our classmate on his birthday. Have we your vote? An envelope addressed to the writer was received from Freeport, Maine, with this notation, "Mailed with no enclosure." Where did the contents go?

We regret that a note from Mrs. Paul James Franklin, wife of our classmate, stated that her husband passed away on December 23, 1953, at Overlook Hospital, Summit, N.J. He was born in Danielson, Conn., 64 years ago and was a direct descendant of a 1620 *Mayflower* settler. Needham Mass., was his home when he graduated in 1913, and architecture was his life's vocation. His association with Gilbert and Betelle, Newark, N.J., from 1921 to 1933, was beneficial architecturally in the erection of many well-known buildings in north Jersey, including the Summit and Columbia High Schools. Maplewood and Chatham, N.J., were several towns where he resided during his splendid career. With his family, he spent eight years in Needham, Mass. As an antiquarian and expert on 17th and 18th Century Americana, he led a very busy and interesting life. At the time of his death, he was president of the Chatham Historical Society; a member of the Morris County and Chester County (Pa.) Historical Societies. He founded the Pewter Collectors Club of America, serving twice as its president. His talents were legion as he was reputed an expert and lecturer on old clocks. His wife and sole survivor, Mrs. Edna Taylor, is also an antiquarian. Our heartfelt sympathy goes to you, Mrs. Franklin, in this period of adjustment.

Again, we were shocked to learn of the passing on January 19, 1954, of another old friend and classmate, Adolphe C. Cardinal, former traffic manager of Hoffman La Roche Inc., Nutley, N.J. Ad Cardinal was recovering from a stroke but he contracted pneumonia around Thanksgiving and was confined in a hospital the following month. He was convalescing in a nursing home, but finally succumbed on January 19, 1954. To Edwin A., of Short Hills, and Paul J. Cardinal, we offer our sincere condolences. Your loss is also our loss.

With great regrets we note that William H. Torrey, Course VI, 20 Pleasant Street, Spencer, Mass., joined his Maker on July 19, 1953. Can any of you classmates furnish us with more details? Marion R. Hart '13 is the author of a new book entitled *I Fly as I Please* (New York: The Vanguard Press, 1953, \$3.00). Henry C. Harrison received the Emile Berliner Award from the Audio Engineering Society in October, 1952, in recognition of his outstanding inventions and developments in audio engineering; for his application of transmission line principles in loudspeakers and the lateral, rubber line recorder used in making the first and many subsequent electrically cut records for phonograph and talking movie applications; and for his contributions to carbon-button microphones, the orthophonic victrola, wire-spring relays and a multi-reed selective signaling system used in mobile radio. Our heartiest congratulations. Geoffrey Rollason, General Manager of the Aluminum Company of America's Die Casting Division in Garwood,

N.J., was elected president of the American Die Casting Institution at the annual meeting of the association in Chicago in the fall. Bravo, Jeff!

Well, as usual, our Lawrence C. Hart is one of our very loyal classmates and a go-getter. His very newsy letter in reply to our appeal certainly provides us with much interesting news of his activities, and we quote: "All of you, of course, are familiar with my work in Johns-Manville as vice-president for relationships. I have held this position for the last seven years. The first 33 years of my 40 with Johns-Manville were spent almost entirely in engineering and sales work. I still have two years to go before retirement on June 1, 1956. Just what I shall do in post-retirement years I do not know definitely, although I can assure you that I certainly am not going to retire to complete inactivity. The outside work which for the past six or seven years has been of uppermost interest in my mind and to which I have given a great deal of time and effort is the National Junior Achievement Program. During this very week (February 1, G.P.C.) we are celebrating National Junior Achievement Week with proclamations from Governors of States and Mayors of Cities throughout the country. Junior Achievement is being saluted daily on radio and TV in all national hookups including National, Columbia, Mutual, and American. The leading railroads of the country are printing Junior Achievement messages on their dining car menus. The leading airlines of the country are enclosing Junior Achievement brochures in their seatback packets. National advertisers are saluting Junior Achievement in their advertisements. For the past seven years I have been a member of the National Board of Directors of Junior Achievement Incorporated. For the past four years I have been chairman of the National Executive Committee, and since June 10, 1952, I have been serving as national president.

"Our growth has been quite spectacular over the last 10 years. In the school year, 1942-1943, we were operating only here in the northeastern section of the country, with 108 of these Junior companies and about 1,500 high school boys and girls participating. During the school year closing last May, 1952-1953, we operated 1,524 companies with more than 20,000 high school boys and girls participating. These operations extended all the way from Boston to San Diego with Junior Achievement regions established in 23 States. Our current year has shown a further growth to more than 1,800 of these Junior companies with several thousand more boys and girls participating." Larry and his associates should be congratulated for the splendid efforts with our high school boys and girls. This Junior Achievement Incorporated is under the guidance of leading and public minded industrialists and business men. Groups of the young people are organized into chartered companies. These companies are set up in replica of well-organized big business, operating all phases of manufacture, including purchasing, production, promotion, accounting, and advertising. Shares are sold at a small or nominal figure. At the end of the fiscal year, an audit is

made and the profits of the endeavors are distributed pro rata to the stockholders. This is a very praiseworthy program and will materially assist in the reduction of juvenile delinquency. Any of our readers who are interested in this program should communicate directly with Larry at Johns-Manville Corporation, 22 East 40th Street, New York 16, N.Y. Good luck to you, Larry, and your associates, in your Junior Achievement Program.

Kindly note the following changes of addresses: Fred O. Stillman, Stillman's Radio and Television Service, 53 Post Boulevard, Carteret, N.J.; Madison W. Christie, 51 Gleason Street, West Medford, Mass.; Thomas R. Collins, R.F.D., Cohasset, Mass.; Stanley H. Hodgman, 621 Woodford Street, Missoula, Mont.; Ignaz Schilowsky, 1150 44th Place, S.E., Washington 19, D.C.

Well, my retired and still laboring classmates, dues and news are still arriving daily, so keep tuned in to this same station, same wave length, Station M.I.T. '13 for our next broadcast next month. — **FREDERICK D. MURDOCK, Secretary**, Murdock Webbing Company, Box 788, Pawtucket, R.I. **Assistant Secretaries**: **GEORGE P. CAPEN**, 623 Chapman Street, Canton, Mass.; **ANDREW VOGEL**, 1821 Lennox Road, Schenectady 8, N.Y.

• 1914 •

The Class has already received the Alumni Fund letter signed by your Secretary, pinch-hitting for Ross Dickerson. Since that letter was written, your Secretary has had the pleasure of visiting Ross at his home in Elizabeth, N.J., and hopes that before you read these notes he will have had the pleasure of a second visit with him. Ross is still confined to bed as a result of his fall, but he hopes to be up again soon. To paraphrase Ross, he may not be able to use a No. 1 driver again, but he at least hopes to make the rounds with a putter. How many of us quietly admit to ourselves that if we threw away all clubs but the putter our score might improve? Quite aside from his injury, Ross will not return to his office. Standard Oil's 65-year age retirement policy, requires that Ross retire this spring. Ross expects, however, to "peck and hunt" on his home typewriter and carry on the class activities.

Our number-one contractor, Art Peaslee has been elected president of the Hartford (Conn.) General Contractors Association. Art has been in the contracting business ever since he left the Institute. His first work was in New York and for the past 30 years, in Hartford, being president of his own company since 1928. A fine letter from Harold Bent tells of his work with the Newport News Shipbuilding and Dry Dock Company at Newport News, Va. Bent has been with that company since graduation and for some years has been production manager. The Company has built the latest of our giant aircraft carriers and has just been awarded a contract for a second ship of the same class. In addition to naval vessels, the yard has built some noteworthy merchant ships such as the *United States*, queen of the U.S. maritime fleet. Bent has a son in the R.C.A. Research Laboratories at Camden, N.J. The best news that Bent writes

is that he expects to be with us at Pine Orchard in June.

The annual Boston Alumni Dinner was held at Walker Memorial on February 4. Although 500 were present, the only '14 man whom your Secretary saw was Crocker. Could it be that we are getting old? Hamilton had expected to attend, but a meeting of the Faculty, of which he is chairman, prevented him from attending. A very interesting program was presented, and it was unfortunate that more '14 men were not present to enjoy it. Crocker also has joined the retirement group. Nearly all of his time since graduation has been spent with Arthur D. Little, Inc., of Cambridge. Crocker will continue with the company on a part-time, consulting basis.

Another to retire is Gerald Blakeley, who for many years has been with the Boston office of Johns-Manville. Since retirement Jerry has taken on a new assignment. It is chief planning engineer, Division of Building Construction, Commonwealth of Massachusetts. This division handles the long-range planning program for state buildings.

One classmate who was a regular reunion attendant will be missing this year. Nelson Edward Baxter had already sent word he expected to be with us in June, but just after Christmas he suffered a heart attack, followed on January 8 by a second and fatal one. Baxter came to the Institute as a transfer from Worcester Polytechnic Institute, where he was a member of Alpha Tau Omega. He graduated in Mechanical Engineering and spent the greater part of his time since graduation as a sales engineer. For some years he had been with Johns-Manville Corporation at Peoria, Ill. In the two years he was at the Institute Baxter was a member of the Tech Show Orchestra and also of the Mechanical Engineering Society. Baxter married Olga Ippensen on October 2, 1920; the couple are survived by two sons, William Edward and Nelson Edward, Jr., — **H. B. RICHMOND, Secretary**, 275 Massachusetts Avenue, Cambridge 39, Mass. **Ross H. DICKSON, Assistant Secretary**, 126 Morristown Road, Elizabeth, N.J.

• 1915 •

One of Speed Swift's fair old masterpieces has been shaken out of the mothballs again to "help Azel," which means "will you please pay your class dues?" Not much, not often — about \$5.00 every two years, or more if you can, and want to send it. Keep the old 1915 spirit in the black! If you have not already paid your class dues, please put your check in the postpaid envelope.

John Dalton successfully recovered from an operation at the Lawrence General Hospital about the middle of February; Reggie Foster also had a successful convalescence after surgery at the Lowell General Hospital about the same time. All our best wishes to these two popular classmates.

As I'm sending in these notes, Fran and I are leaving Boston (February 17) on the *Empress of Scotland* for a West Indies cruise, including a day or so at the Panama Canal. We hope to see some of our classmates or M.I.T. men on the cruise,

and examine those masterful engineering works of the Canal Zone. — **AZEL W. MACK, Secretary**, 40 St. Paul Street, Brookline 46, Mass.

• 1916 •

For many of us, this is the month when we start to ease gently into some of our favorite outdoor activities. There's no doubt that we are just as strong and capable as ever and could go 15 rounds with the best of them today, but let's take it easy anyway. It will give some of the younger fellows a chance to catch up.

We have three changes of address: Charles T. Paugh, 201 Thomas Avenue, Frederick, Md.; Edward B. Peters, P.O. Box 2155, Boston 6, Mass.; Colonel Charles S. Reed, 16 Wilton Road, Alexandria, Va.

We would also like to acknowledge belatedly seasons greetings cards from the following: Al Lovenberg, Bill Drummey, Irving McDaniel, Hal Neilson, Steve Whitney, Izzy Richmond, and Bill Barrett. Thanks very much fellows; hope we can exchange greetings in person at the reunion in June. We also wish to acknowledge short notes from Ed Weissbach and George Petit indicating that both are well.

Here's an interesting letter from Dina Coleman: "This rat race was about to get me down, so last September, I set out, alone, to take my daughter's car to her in San Francisco. On the way, I had lunch with Chuck Loomis in St. Louis, and we made a date for the next five-year reunion. Thence to Colorado Springs, where I called up George Repetti, but the old school ties would not stand the strain, so I passed on. From there, I drove to Pueblo, Royal Gorge (a tourist trap). They served broiled mountain trout with barbecue sauce. To me that was a new gastronomic low! Salida, and on to Alamosa, the center of the last remaining narrow gauge railroad systems that covered the Rocky Mountain Area when I was there 40 years ago. They have a collection of narrow gauge engines, cars and equipment, and a museum built like one of the old stations at one of the tourist courts. From there to Mesa Verde, where the enigma of what happened to these people, who left there centuries ago, is still unsolved. I don't blame them for leaving. Thence, by way of Shiprock (uranium and helium) Painted Desert and Petrified Forest to the Grand Canyon. The mule trip to the bottom and back is not recommended. I was too scared not to hold on, as directed, but my knees quickly got so sore I couldn't. What a situation! While I was in the mood, I went around to Bryce Canyon and Zion, and both of these places increase man's appreciation of his relative insignificance to the world we live in. They also increased my admiration for the Mormon character and accomplishments. It is a good thing we have Benson in the cabinet. If any one has any doubt about what fools mortals are, he should go to Las Vegas, Nevada, or to Reno. Thence to Los Angeles, where I took one sniff of their famous smog, and left immediately for Yosemite. Finally, by way of Monterey and Carmel, to San Francisco, where I had a nice lunch with General Boatwright. On the way back, by train, I had a

few Delts to lunch with me in Los Angeles, the smog being on a short vacation. Thence by rail to New Orleans and home. Brother, for purposes of habitation, you can take all of the southwest, including Los Angeles, and give it back to the Indians. There are reports in many quarters that I am in the minority, by many millions, but this is a big country and, as yet, there is room for all of us. I wish I could think of some way to get out of all these one-horse businesses I have acquired, so that I could spend the next few years seeing more of it, and its people. In the meantime, go to see *Cinerama*, and you will get some idea of what I mean." Thanks for a very interesting letter, Dina.

The following clipping turned up in our mail bag this month: "Under a recent organization of the Office of the Chief of Engineers, Brigadier General Albert C. Lieber was promoted to Major General and named Deputy Chief of Engineers for Operations. A native of Boston, General Lieber was graduated from M.I.T. in 1916 and commissioned Second Lieutenant in the Engineer Reserve Corps. In October 1917 he was commissioned in the Corps of Engineers. As district engineer of the Iran District and of the Peruvian Gulf Command in 1941, he initiated the great improvements made at the port of Basra at the junction of the Tigris and Euphrates Rivers. In the European Theater in 1944, he was initially deputy chief of Staff of the XII Corps and later Chief of Staff of the XXIII Corps and the XXI Corps. He became deputy chief of Staff of the Army Ground Forces in 1947, Assistant Commandant of the Engineer School in 1950, and Commander of the Engineer Replacement Training Center at Fort Belvoir, Virginia." Our sincere and hearty congratulations to you, Al, on your wonderful career in the service of our country.

Here's a nice letter from Doug Robertson: "I am glad to acknowledge your letter asking for news for the column. I always turn to that part of The Review first to see how things have been going with our classmates but I am afraid I have very little to contribute toward filling it. About a year ago, our son was married and enlisted in the Air Force. He is now located at the Scott Air Force Base and has recently completed the course for Airborne Radio Technicians and is starting a course concerning radio navigation equipment for airplanes. He and his wife were with us for a week at Christmas. In 1946, I secured a private pilot's license and do a little float-plane flying in the summertime and land-plane flying the rest of the year. I hope soon to be able to find the time to fly more often. Next Monday, my wife and I are going down to the West Indies for a short vacation. I have not seen any of our classmates recently so that I am sorry not to be able to pass on any news about them. Our business last year was better than the year before for my company, the Mount Hope Machinery Company. We are recently diversifying into production accessories for the paper and plastic film industries as well as the textile industry which still uses about two-thirds of our production." Thanks, Doug, hope we see you this coming June at the reunion.

Jack Burbank pleased us very much with this one: "When I reached home yesterday after work, Mrs. Burbank advised me that Jessie Brophy had telephoned saying that she and Steve had been at the Crusade for Freedom Ball at the Hartford Armory. I enclose a newspaper clipping of the event and have marked certain portions referring to our classmate." Here is an excerpt from the clipping which Jack sent us: "The Connecticut Crusade for Freedom was officially launched last evening with a benefit ball at the State Armory. All proceeds will help support Radio Free Europe, which through its 21 stations beams the voice of freedom to millions behind the Iron Curtain. According to Thomas D'A. Brophy, president of the American Heritage Foundation and sponsor of the National Crusade for Freedom, the Crusade is 'an effort to help avoid World War III.' He and Mrs. Brophy drove down to Hartford yesterday afternoon from New York, and they were the honored guests at the ball. They were in the party with Governor Lodge, Honorary Chairman, and Mrs. Lodge." Wonder how many were watching the Ed Sullivan TV show on February 7 when Henry Ford, II, appeared to officially open the nationwide Crusade for Freedom. Following Mr. Ford's brief address, the TV cameras focused on the audience and we were pleased to catch a glimpse of Steve Brophy joining in the applause.

Here's an item about Joe Barker's organization: "The Research Corporation Award for 1953 will be shared by George E. Uhlenbeck of the University of Michigan and Samuel A. Goudsmit of Brookhaven National Laboratory for their discovery of electron spin, a cornerstone of present atomic theory, it was announced today by Joseph W. Barker, President of the Foundation. Although Drs. Uhlenbeck and Goudsmit made their epoch-making discovery in 1925 and many developments in modern physics have stemmed in part from it, the Research Corporation Award is the first true public recognition their work has received. Among other noted scientists who have been given this award in recent years are: Vannevar Bush, Edward C. Kendall, Ernest O. Lawrence, Edwin M. McMillan, and Bruno Rossi [staff]. The citation terms the discovery 'one of the more outstanding and far reaching discoveries in modern physics, a cornerstone of modern atomic theory,' and adds, 'the far-reaching effect of this concept is not confined to our understanding of the fundamental individual particles of matter, but it has also thrown light on the statistics and symmetry properties of systems of particles.'"

Finally, we received this clipping showing an activity of another of our classmates: "Checking the German Underground — Nuclear scientist Vannevar Bush, at left, and U. S. High Commissioner James B. Conant look the part of hard-working diggers during an inspection tour through a modern German mine at Mooers, in northern Germany."

We would like to remind you again that now is the time to be making your plans so that you can be on hand for the reunion on the Cape at the Treadway Inn in North Falmouth, Mass., on the week

end of June 11, 12 and 13, which is immediately prior to Alumin Day at Tech, Monday, June 14. The Treadway Inn, formerly Coonamessett Ranch Inn, has been the site of our reunion for the past three years. We've always had a good time there and have every reason to expect the same again this year. It's a wonderful opportunity for a peaceful and quiet week end. Don't miss it! — RALPH A. FLETCHER, Secretary, P.O. Box 71, West Chelmsford, Mass. HAROLD F. DODGE, Assistant Secretary, Bell Telephone Laboratories, Inc., 463 West Street, New York, N.Y.

• 1917 •

The local crowd gathered once again in the attractive Roof Room of 100 Memorial Drive for a cocktail party prior to the annual Alumni Winter Dinner. Rather low in quantity 17, which has a familiar ring, but high in quality as the following list of distinguished names will illustrate: Sandell, Blanchard, Strout, Wansker, Wood, Gargan, Hutchins, Platt, Whitman, Swain, McNeil, Dickson, Tuttle, Brooks, Stevens, Bernard and Señor Lobdell who had just recently returned from Mexico City. We are sure you all join your secretarial staff in wishing Lobby the best of luck and happiness. He is a grand guy! Irving Crosby who describes himself as a "damn geologist" is off to investigate some dam sites in the Philippines.

We are indebted to Neal Tourtellotte for his attempt to dig up some news on the West Coast. Hu Collins retired from the Army Engineers in 1947 after 30 years of Army life and is very happy teaching civil engineering at Colorado A. and M. College in Fort Collins. George Stebbins is still vice-president and general manager of the Lake Union Dry Dock Company in Seattle. George, Jr., who attended M.I.T. and the University of Washington, is chief estimator at this company. A second boy, Robert, graduated from the Institute in 1950 in geology and is now working for advance degrees at Columbia. Bob McClelland is practicing his profession of architecture under the firm name of McClelland and Osterman in Seattle.

A note was received from the widow of Charles Colby informing us of his death in November, 1952, after a serious illness which lasted over 30 years.

We also regret to record the sudden death of Charles Ellis on October 2 last. He had been quality control manager of the Ford paint and artificial leather plant in Highland Park since 1946. He served the Institute well for many years as a member of the Detroit Regional Scholarship Committee.

If any of you want a few pointers on how to get a job at age 58, we refer you to John Platt whose interesting Army career is well covered in our 30th Anniversary Report. He recently retired with the rank of colonel and settled down in Boston at 100 Memorial Drive in the company of Dr. Compton, Horace Ford, Sam Prescott '33, Raymond S. Stevens, H. E. Lobdell, and other educational and business magnates. Having two children still in school, John decided that his retirement pay needed a little supplementing and

felt that his experience qualified him for Civil Defense Administration. He went to call on the Massachusetts Director of Civilian Defense, a fine gentleman by the name of John Stokes, highly regarded by people of all political parties. Stokes was most courteous but said, "I don't see how we can possibly use a man of your age, Colonel." John replied, "Haven't you any problems, Mr. Stokes?" He had and seemed to enjoy the opportunity of getting them off his chest. "Why I can help you with those problems, Mr. Stokes. I know communications, for example, from A to Z," John said. Mr. Stokes called one of his assistants and told him to put Colonel Platt on the payroll immediately as a temporary advisor. It appears that the temporary period might run *ad infinitum*. — RAYMOND STEVENS, *Secretary*, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge 42, Mass. FREDERICK BERNARD, *Assistant Secretary*, 24 Federal Street, Boston 10, Mass.

• 1918 •

The word Athenaeum has somehow always had the aura of a magnificent intellectual scope for us, perhaps because of our perpetual difficulty in spelling it. There are inescapable suggestions of conscious superiority in it, intimations even of affable condescension. So it is that one has the feeling of something special, on learning that Sam Chamberlain had an exhibit of 15 photographs at the Jasper Rand Art Museum of the Westfield, Mass., Athenaeum. The Springfield paper says: "Particularly enjoyable to local residents, it is believed, will be the many familiar locations in the pictures on display. Among them are a scene in the Public Gardens, Boston; a photograph of Marblehead Harbor and several locations on Cape Cod. Also shown are two enlargements from the book, *Beyond New England Thresholds*. In the glass cases are exhibited books by Chamberlain from the Athenaeum collection and pictures from the library's photo collection. Recent books which may be reserved are *Cape Ann Through the Seasons*, *Cape Cod*, and *Soft Skies of France*. In addition to his study of architecture at Tech, he also studied at the University of Washington, the Royal College of Art in London, and was tutored by M. Edouard Leon of Paris.

From Jack Hanley of the Firemen's Mutual Insurance at Providence comes a whisper for an eager ear. Says he, "Another of our classmates joined the 'Presidents' Club' last fall, so I am dropping you a line about Bob Grohe. Because of his inherent modesty, I doubt if you would hear it any other way. Since Bob studied Course VI, I did not see much of him as an undergraduate. But when I was serving as a chorus man in one of the Tech Shows I could see his cornet pointed at me from the orchestra pit. We renewed acquaintanceship after graduation when he joined the 'Plan Department' of our Factory Mutual Fire Insurance Companies in 1920, where I had been employed for a few months. He worked as a draftsman and engineer for the Factory Mutual Testing Laboratories, and as a field inspector for a few years. Moving to Chicago in 1924, he worked out of the Chicago office of the Factory Mutual In-

spection Department from then until 1927, when he became an engineer for the Protection Mutual Fire Insurance Company in Chicago (one of the Factory Mutual Companies). He became a vice-president in 1935, and on September 1, 1953, was elected president, when John L. Wilds'11 became chairman of the board. Bob lives in Deerfield, Ill., with Mrs. Grohe. I understand his son, Richard, went to school in New Mexico, married the daughter of a professor, and is now living in Denver with Bob's two grandchildren, a boy and a girl. Our contacts over the years have been rather infrequent, but I do recall his being involved in the usual hassle over a new school in his home town, so it seems reasonable to assume that he has accepted his share of civic duties. His consuming interest is bass fishing. He had a spell of illness last year and was forced to see a doctor for the first time in 25 years, but I understand he is again in tip-top condition. As president of the Protection Mutual, Bob now has to attend monthly meetings with the presidents of the other seven Factory Mutual Companies. Most of these meetings are in the East, so maybe we shall see more of him in the future. I hope we may get him to our 40th reunion in 1958." Believe it or not, your scribe who has been called "the village pagan" to his face, is giving a Lenten course at the community School of Religion on "Human Relations and Religion." No dogma allowed. — F. ALEXANDER MAGOUN, *Secretary*, Jaffrey, N.H.

• 1919 •

Reunion plans for the 11th, 12th and 13th of June are progressing, according to our committee. Wentworth-by-the-Sea, Portsmouth, N.H., is the place, and we will enjoy the fine accommodations and cuisine, the golf, tennis, swimming and sailing, but most of all we look forward to visiting with our classmates and their wives. Notices will be sent of arrangements for meeting those arriving in Boston and taking them to Wentworth-by-the-Sea. Conversations with Will Langille and George McCarten indicate that classmates coming from west of the Alleghenies are very happy that the reunion has included the wives. I have also learned that the committee is preparing an interesting program of events for all those attending. Here's looking forward to seeing you all in June.

Don Way went to Brazil in January on a four-week business trip. Art Blake, Maurice Role (and his son, a student at Boston University), Frank Reynolds, Don Kitchin and Rogers Johnson attended the Midwinter Meeting at Walker Memorial on February 4. Art reports that all were interested in the reunion and hope to be there. Art's company has another new toy, Jo-Ko the monkey, an addition to his original, famous Jo-Bo. Glad to have news from Ervin Kenison in Washington, D.C. He is still working for the Federal Power Commission on cases involving requests of gas pipeline companies for rate increases. His hobby is contract bridge, and he has made the senior master rating. Congratulations!

From Niagara Falls, Bob Montgomery writes: "Have retired from Carborundum

Company after 32 years. Last title — Associate Superintendent of Bonded Products. Had a light cerebral embolism in December but am recovering very well. Have sold our home here and expect to locate either in Florida or California." Your Secretary enjoyed seeing George Michelson in February when he and his wife were in New York City. They were taking in the sights and had just been to the United Nations building. Their oldest daughter was recently married to a doctor. Their son is a junior at Trinity in Hartford, Conn., and their youngest daughter is finishing grammar school this year. George is very active in community affairs in Boston and spends a great deal of his time in that field. He plans to be at the reunion.

Ed Moody is treasurer of Edward G. Moody and Son, Inc., Nashua, N.H. His company fabricates steel, specializing in truck tanks, rural fire engines and liquid meter provers. He has six grandchildren, including three healthy triplets born last May. His hobby is still square-dance calling. He says he will see us at Wentworth-by-the-Sea. — EUGENE R. SMOLEY, *Secretary*, The Lummus Company, 385 Madison Avenue, New York 17, N.Y.

• 1920 •

Through the kindness of S. W. Freese '21, I have more information about Count Capps' untimely death. Count passed away on January 14, leaving a wife and two sons, one six years old, and Count B. Capps, Jr., only three months old. Count was president of W. B. Fishburn Cleaners, Inc. He was born in Fort Worth and had lived there most of his life. He was chairman of Fort Worth's first City Planning Board and held that office from 1925 to 1929.

I also have a little more information about Ray Davis who died the day after Christmas. He had been with Dennison Manufacturing Company for 25 years in the Personnel Division. His only immediate relative was an aunt with whom he made his home in Framingham.

Irwin L. Moore is president of the New England Electric System and is a director of the Massachusetts Business Development Corporation, also of the First National Bank of Boston and the Berkshire Fine Spinning Associates. Ralph Booth, General Partner of Jackson and Moreland, has been honored by the grade of Fellow in the American Institute of Electrical Engineers "for contributions to the successful solution of problems arising in the development of electric power systems and in the application of electric power to industry." Jesse Doyle has been made a general partner in the firm of Hayden Stone and Company, Boston, with which firm he has been associated during his entire business career. He has been office manager since 1948. A naval aviator in World War I, Jesse served again in World War II and was a commander in the U.S.N.R. when released from active duty.

Dode Spiehler has been appointed operations manager in the Refining Division of the Pure Oil Company, Chicago. He joined Pure Oil in 1928 as a development engineer and spent some time at their various refineries in West Virginia, Penn-

sylvania, and Ohio, before making his headquarters at the home office in Chicago. In his new post he will have direct charge of all operations in the company. His home is in Evanston. Frank Hunt's new home address is 632 North Elmwood Street, Oak Park, Ill. K. B. White is at present back at his chateau in France, address, Chateau D'Arthies, Arthies, S.O. France. So far as we know, he still maintains his residence in Union City, N.J.

Pete Lavedan was the subject of a feature article in the Chicago *Tribune* recently. The story entitled "The Road To Success" tells of his business career and how he became chairman of the board and chief executive officer of Liquid Carbonic Corporation. As many of you know, Pete was born in Paris but came to this country at the age of five. The author of the article says, "However, Paris did put one touch on him by making him a very handsome gentleman." To this we heartily subscribe. Starting after graduation with the Cambridge plant of Liquid Carbonic as a chemical engineer, he survived the 1921 depression by firing a boiler, painting steel pillars and doing other chores. He also attended Suffolk Law School in Boston three nights a week for two years. Transferring to New York as a salesman, he became interested in the possibilities of dry ice and was instrumental in getting his company to associate with the Dry Ice Corporation of America, becoming vice-president of the latter company and later vice-president of Liquid Carbonic. He was elected president of the company in 1941. Pete and his wife, two daughters, and a son, live at 1200 Lakeshore Drive and have a summer home on Cape Cod. His daughter Genevieve, better known as "Gix," is an undergraduate at M.I.T. I need hardly mention that Pete is a member of the M.I.T. Corporation. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

• 1921 •

A letter from our 1921 Class Agent, Edmund G. Farrand, is always welcome, this one a reminder to join in the annual Alumni Fund giving to M.I.T. as the Institute has given to all of us. This self-styled "Yankee in the South" is the master of the Colonial Plantation in Leesburg, Ga., and his literary style demonstrates the ready facility with which this versatile gentleman adjusts from life in the Loop to the realm where cotton is king. We know you will hasten to fulfill the request for a contribution to M.I.T. from Ed — farmer and fund raiser extraordinary.

Frank E. Huggins, Jr., is vice-president in charge of sales and a director of the North American Mogul Products Company of Cleveland, Ohio. A phone call from Sumner Hayward of the New York Telephone Company gives the first news we've had about Squeeze for a long time. Sumner says he attended a recent meeting of telephone executives in Cleveland and took the opportunity to call the Huggins' home at North Woods, Macedonia, Ohio. The ensuing dinner party reunited these two of the four inseparable "H's" of our Course X classmates. (The other pair of this initial letter quartet are Munnie Hawes and San Hill.) Frank and Mrs.

Huggins have a married son and daughter. Sally, who lives in Buffalo, has two children, and Tom, who is attending Dartmouth, has one child.

The Class of 1921 is represented in the official M.I.T. family by four professors and one emeritus professor. Jack Rule is professor of Engineering Graphics in charge of the Section of Graphics and also the head of Course IX, General Science and General Engineering. Charles Baish, a Colonel in the Corps of Engineers, is professor of Military Science and Tactics in charge of the Department of Military Science. Es Schwarz is professor of Textile Technology in charge of the Course in Textile Technology. Walter Fife is associate professor of Structural Engineering. Vic Homerberg is emeritus professor of Physical Metallurgy and is a resident of California.

Mich Bawden is active in the M.I.T. Alumni Association as an associate member of the Alumni Council and a member of the Nominating Committee for Departmental Visiting Committees. Warrie Norton is a past president of the Alumni Association. Chick Kurth is our class representative on the Alumni Council. Others on the Council who represent various Alumni Clubs are: Josh Crosby, M.I.T. Club of Eastern and Northern Maine; Mel Jenney, M.I.T. Club of the South; Frank Kittredge, M.I.T. Club of Monterey, Mexico; Ace Rood, Indiana Association of the M.I.T. Admiral Homer N. Wallin is an alumni member of the Departmental Visiting Committee for Naval Architecture and Marine Engineering; Helier Rodriguez serves on the Committee for the Modern Language Department; Bill Sherry serves for the Division of Industrial Cooperation. Tom Bartram is vice-president of the M.I.T. Club of the Kanawha Valley in West Virginia; Si Travis is president of the M.I.T. Club of Fort Worth; Larry Buckner is a vice-president of the M.I.T. Club of Central Pennsylvania; Helier Rodriguez is review secretary of the M.I.T. Club of Cuba; Ed Praetz is president of the M.I.T. Club of the Merrimack Valley, serving Lawrence and Lowell, Mass.; Val Vallarta is president of the M.I.T. Club of Mexico City; Joe Wenick is treasurer of the M.I.T. Club of Northern New Jersey. Among those who serve the Institute as Honorary Secretaries and members of the M.I.T. Educational Council are: Ed Farrand, Georgia; Harry Field, Hawaii; Whit Spaulding, Maryland; Cac Clarke, Ed Lockwood, Munnies Hawes and Sumner Hayward, New Jersey; Paul Anderson, Irv Jakobson and George Welch, New York; Ray Snow, North Carolina; Wally Adams, Ohio; Bill Sherry, Oklahoma; Glenn Stanton, Oregon; Si Freese, Texas; Gene Rudow, Washington; George Pollock, Wisconsin; Helier Rodriguez, Cuba.

Henry R. Kurth sent a welcome letter telling of a recent meeting with Warrie Norton and Mich Bawden at the last Alumni Council dinner. Chick says that his family has taken wing from their Cambridge homestead, and son Malcolm, M.I.T. '49, is in Schenectady with General Electric Company; Anita lives on a large cotton plantation in Vista, Calif.; Don is with Stone and Webster in pur-

chasing and expediting; Barbara is an operating room nurse at Goddard Memorial Hospital in Brockton, Mass. Via the *Rogers Reporter* of the Rogers Corporation, Manchester, Conn., comes news of the engagement of Phyllis Silverstein, daughter of Rogers' president, Saul and Mrs. Silverstein, to Samuel Rubinovitz, M.I.T. '51, of Dorchester, Mass., a first lieutenant in the Air Force stationed at Wright Field. Phyllis will be graduated from Wheaton College next June.

Merle H. Davis, formerly a colonel and chief of the Ammunition Division, Office of the Chief of Ordnance in the Pentagon, has been promoted to brigadier general. He is the holder of the Legion of Merit with two clusters and the Bronze Star. John R. Hardin, a brigadier general in the Ordnance Corps, reports a new assignment to the Office of Ordnance in Vicksburg, Miss. Holland L. Robb, a colonel, Corps of Engineers, writes that he has a new home address in LaCrosse, Wis. Homer N. Wallin, a rear admiral and recently chief of the Bureau of Ships, now heads the Naval Shipyard at Bremerton, Wash. Charles B. Dicks, Jr., formerly a professor in the industrial chemistry department of Tulane University, has given up his teaching and has opened his own business, C. B. Dicks, Jr., Company at 925 Gaianne Street, New Orleans 13, La. The home address of Sam E. Moreton, Jr., given incorrectly in last month's notes, should have been listed as 706 South Jackson Street, Brookhaven, Miss. New addresses have also been received for Charles M. Palmer and Harold F. Stose.

Class of 1921 Calendar: Alumni Day Class Party, 5:00 P.M., Monday, June 14, 1954, Hotel Statler, Boston, preceding the Stein Banquet. Thirty-fifth Reunion, June 8-June 10, 1956, Sheldon House, Pine Orchard, Conn., and June 11 at M.I.T. — CAROLE A. CLARKE, *Secretary*, Federal Telephone and Radio Company, 100 Kingsland Road, Clifton, N.J.

• 1923 •

A Committee of five, Zimmerman, Bond, Shaw, Tremaine and Russell, met at the Williams Club in New York City on January 26 to make plans for the forthcoming years, and particularly for the 35th reunion. Penn Howland could not come because of distance, and Channing Clapp was in the hospital making a nice recovery from a hernia. Both sent their regrets. The Committee tentatively decided that the reunion should be held at the Oyster Harbors Club, Osterville, on Cape Cod, provided we can secure the facilities. It is a delightful place with ample provision for loafing, golfing, swimming, boating, fishing, and lounging. Local committees are to be set up in key areas to produce workable ideas and develop enthusiasm. The present group will take care of the New York area — Penn Howland will lead the Boston group. We have written to Phil Coleman, XV, and Francis Squibb, X, at Chicago, Doc Smith, XIV of Cleveland, Jim Beretta, IV, at San Antonio, and Royal Sterling, II, at Providence to head committees in their areas.

Under other important business the Committee (1) accepted with reservations a progress report from Bob Shaw on the

rejuvenating qualities of his new hair tonic, claiming (a) disappearance of dandruff (b) return of his hair to its natural (?) color, (c) 25 pounds loss of weight — mostly off his waistline. (He plans to make a detailed report at the 35th reunion so you better plan to come and hear for yourself.) (2) Approved Lem Tremaine's decision to await one other testimonial before starting to use it. (His hairpart is now 6½ inches wide.) (3) Voted that Tremaine is the worst treasurer and Russell the worst secretary the Class ever had. (The culprits heartily approved the vote but were unable to persuade anyone to take their places.)

Norman Weiss, III, reports that he became a grandfather on January 10. His son, Norman David, and daughter-in-law, Suzanne, chose John Carton O'Flaherty, III, and his wife as godparents of the baby boy. O'Flaherty heads up a construction company of the same name at Denver where he has a little time left for business after bringing up three girls and two boys. Norman is milling engineer for the American Smelting and Refining Company at Salt Lake City. Your Secretary hopes to see both of them on a trip now being planned in that area for March.

Herman A. Bruson, V, Manager of the Organic Chemical Research Department of Olin Industries, New Haven, was elected chairman of the New Haven Section of the American Chemical Society for 1954. Herbert N. Leisk, I, was the principal speaker at the charter meeting of Western Massachusetts Chapter of the Society of Residential Appraisers early in January. Leisk is a senior member of the International Society and a past president of the Greater New York Chapter. He has been named chairman of the Educational Committee of the International Board of Governors.

Many New England newspapers carried an item on December 27 that Theon G. Adams, II, apparently drowned while at Harwick, Mass., on a fishing trip. His disabled boat was later found with tools on the seat, indicating he may have fallen overboard while attempting to repair the outboard motor. Adams lived at Plainville, Mass., and was head of the Adams Asphalt Company at Cambridge. He is survived by a wife, a married daughter and a son, David. Our sympathy goes out to them. We have a brief notice that Robert E. George, VI, passed away on January 8. No further particulars are available at the present time.

Royal Sterling modestly admits he has no news excepting a contemplated trip to Florida and the problem of selling a shipload of pumice received from Greece. That should not be any problem — it all depends upon how you spell it. We wish him success.

The new pamphlet "M.I.T. Alumni Make News" listed four members of the Class in a recent issue. We previously reported upon Proctor, Schmitz and Bowditch — now Eger V. Murphree, V, makes the Hall of Fame by receiving the Industrial Research Institute's medal for accomplishments in 1953. He is president of Standard Oil Development Company. Congratulations! — HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 North Broadway, White Plains, N.Y.

WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington Street, Auburndale 66, Mass.

• 1924 •

Although the wintry blasts rage outside as these notes are written, by the time they reach you, spring will be in the air and June just around the corner. Returns from the reunion letter came in fast right at the beginning. It was obvious that a lot of you had already made up your minds and were just waiting for that little card to arrive.

A note from Walter Weeks signed "Yours for Pine Orchard" included the information that he went to Louisville something over a year ago. He's still with General Electric, and this was part of a move they made from three other locations. Wish we had even that much dope on some of the other moves you fellows have been making. Willard Van Allen, who has been a government scientist for a great many years, has finally left Washington for Rochester. Floyd Stewart has moved from Manhasset, N.Y., to Chagrin Falls, Ohio. And Professor Margaret A. Kennard has moved from Portland, Ore., to Vancouver. But we don't know the whys of any of these moves. We'll try and pick them up for you.

Evidently that survey George Tapley was doing in Burma turned out to be a more lengthy job. At any rate his mail now goes directly to Rangoon instead of through Knappen, Tippetts, etc., New York office. And it looks as though Dent Massey must have reached the jeep saturation point in Europe. He's back home, only this time he didn't return to Canada. He's with the Standard Triumph Motor Company, in Beverly Hills, Calif. President MacCallum of the M.I.T. Club of Southern California, please note.

One change, however, is fully documented, that of Richard T. Lassiter. For a year and a half Dick was in the Chicago office of Western-Knapp Engineering Company, as chief engineer on the White Pine Copper Company project. From all reports, that was a right sizable job. Western-Knapp, as many of you know, designs and builds mining and industrial processing plants. Last October Dick was transferred to New York, is now district manager there.

The Max Ifelds left for Mexico in late January for a lengthy stay. They'll be there until well after the March Fiesta. Latest word from Hank Simonds was from Bahrein. Had to look that one up, but finally located it in the Persian Gulf. The gazetteer says it has a population of 120. It was obviously not overly large, since Hank couldn't even find a postcard to send this time.

Midwinter Meeting in Cambridge didn't bring out a great flood of '24 men, but it was a very pleasant occasion. Harold Hazen and Avery Ashdown were there from the M.I.T. staff. Will Gilman showed up, and so did Dick Walker. There were probably others that your Secretary, didn't spot. Joe Mares arrived in town that afternoon, but since he came to the meeting with Jim Killian '26 they sat together at the head table. Joe had a bit of real news to offer. You will remember he was in charge of Monsanto's Texas

City plant. Now they have parted company and Joe is in business for himself. Not at all sure of either the location or the business.

The big news of the month, however, comes from Connecticut. From Darien comes a clipping headed: "Mrs. C. T. Quarles, William W. Quarles, Feb. 6 — Mrs. Catharine Thomas Quarles of Alden Park Manor, Philadelphia, and Sarasota, Fla., was remarried yesterday to Col. William W. Quarles of Stamford, Conn. The ceremony was performed in the presence of relatives and a few intimate friends." The Reunion Committee immediately chalked up another reservation.

One last word about the Fund. This "\$1 a year — \$30 for the 30th" is practically snowballing. Many of you took Frank up on his suggestion with your original contributions, but even more encouraging is the number of you who evidently, on second thought, decided it was a smart idea and increased your initial gift to that amount. That is good! — HENRY B. KANE, *General Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

• 1925 •

We were well represented at the Midwinter Alumni Meeting held at Walker Memorial on February 4. The following were present: Willard Allphin, VI-A; Bill Arnold, XV; Rusty Blair, II; Sam Caldwell, VI-A; Doc Foster, III; Greg Gregory, XV; Ralph Lewis, I, and his son; Ed McLaughlin, I; Fred Rice, I; Ken Robie, I, Wally Squire, II, with his son; Ave Stanton, XV; Clarence Thulin, XIV; Wally Westland, I; Court Worthington, I, and Bob Hodson, II.

Plans for the 30th reunion in June of 1955 are moving ahead and by this time you should have received President Ave Stanton's annual letter which begins to let you in on some of the interesting things being arranged for 1955.

One news item appears in the form of a release from the Bell Telephone Laboratories. King Gould of 417 Prospect Street, Westfield, N.J., has been named director of Facilities Development of Bell Telephone Laboratories, New York City. He has been associated with the Bell System since 1927, when he joined the American Telephone and Telegraph Company's Development and Research Department, from which he transferred to Bell Laboratories in 1934. He has been active in coaxial cable systems development and carrier telephone systems engineering. During World War II he specialized in radar systems for the Navy and Air Force. He served as an expert consultant to the Office of the Secretary of War, 1944-1945, and in 1946 became chief research engineer, Civil Communications Section, General Headquarters Supreme Commander Allied Powers. Since 1951 he has been air defense equipment engineer for the Laboratories. — F. LEROY FOSTER, *General Secretary*, Room 5-105, M.I.T., Cambridge 39, Mass.

• 1926 •

When we arrived at Pigeon Cove on Friday evening, old Boreas was lashing the coast. By Saturday morning the temperature was zero and the relatively

warm ocean was boiling like a cauldron — mountainous clouds on the horizon were really steam. The nun buoys were wearing white, conical, ice hats, and for the first time we sighted ice-coated bell buoys miles off shore. Having no garage out here, we were anxious to see how a modern automobile would perform after such a night out and found that it behaved much like the 1920 jobs that many of you used to park out by the dorms. However, minus a crank, it is now much simpler to wait for Old Sol to shine on the hood for a couple of hours, and then pour a little desiccant in the gasoline tank to absorb the water that caused the trouble in the first place. After this brief introduction, I should have you in a receptive mood for excerpts from a letter that I recently received from Ben Howe who was in Puerto Vallarta, Mexico: "We drove to Guadalajara, Mexico, in four days, left our car there and flew in a DC-3 to here. This is a primitive fishing village on the Pacific Coast — no roads to it. This hotel has an open dining room with a yard full of coconut trees on the beach, patio in center full of flowers, all in bloom. The town has a Diesel job for electricity but no juice is turned on except from 7:00 P.M. to 11:00 P.M. Water supply is short so it's turned off sometime in the wee hours every night and on again at 8:00 A.M. (Guess they need my services). The hotel rates here are 'terrific' — 16 pesos for a double room and 20 pesos for three meals for two, 36 pesos per day for us which makes \$4.20 per day, and the meals are good if you like fish, sea food, and fruit. I got a haircut here for two pesos and bought Bacardi rum for \$3.00 per gallon. There are several retired Navy men here, who stay all winter and go to the States in summer. The temperature of the Pacific water here is 72 degrees F., very good fishing, bathing, and trails for hiking up mountains or riding burros or small horses. The coldest it has been is 70 degrees F., very comfortable in sport shirt, jeans, and sandals.

"We leave here soon for Guadalajara and drive to Manzanillo which is a small deep seaport on the Pacific about 300 miles south of here. There is more activity there, several beaches, and we will have our car to drive north and south on the coast for exploring. It is about 5 degrees F. warmer there than here. Some Americans have built their own winter homes on the beach there. With common labor at \$1.00 per day and skilled labor at \$2.00 per day, one can build a nice three-bedroom home for \$3,500. You should see some of the reinforced concrete work done here — archways, lattice walls, and so on. There is tile work everywhere — all walls and floors for most buildings, inlaid, and better than we do. But, they have more time, never worry about finishing anything. It's a good place to unlash and get lazy — Ben." Sounds as though he was doing sales promotion for some Mexican Chamber of Commerce. He certainly has succeeded in arousing my interest. You will recall that Ben suggested having a '26 reunion in Mexico sometime — the idea certainly has merit. We have another classmate who never worries about antifreeze in his gasoline — Bill Edwards of Honolulu. Bill sends me

his perpetual calendar at the turn of each year with an up-to-date report on its progress — he has been working on it now for 31 years. His latest bit of progress was to have the calendar proposed for adoption in Congress. Let's quote a bit from Bill's letter: "Of course out here it is 'paradise' all the time, so one just about takes it for granted. I enjoyed a good swim at Waikiki on Christmas Day, but would really enjoy a New England winter once more. I was pleased to read in the notes of Gordon Spear, an old Quincy High School classmate, and of Guy Frisbie, and others. We have an M.I.T. Club and meet whenever a distinguished faculty member visits with enough time for us to gather the gang. I always read the class notes first, so do keep up your good work.

"We enjoy our existence out here. We have our own home in Manoa Valley; I'm electrical branch manager in the maintenance engineering division of the Navy's District Public Works Office, and after 12 years in Hawaii, I believe I like it well enough to stay. My son, Arthur, is on the President's honor list at the University of Washington, graduating next June as ensign in the Naval R.O.T.C. program. He was recently initiated into Tau Beta Pi, thus doing better than his old man."

Let's take a quick look in the mail bag now, which brings in mostly clippings from newspapers. A good photograph of Jim Crawford from the *Telephone News* tells of his appointment to Engineer of Plant Extension, Western Engineering — Jim started as an engineering assistant in the Philadelphia plant — I assume this must mean Western Electric. I note in the Alumni Register that Jim lives in Wilmington, Del. — will have to 'phone him when I am next there. There was a long story in the *Boston Traveler* recently about the Foxboro Company of Foxboro, Mass., which is headed by two M.I.T. men, Benjamin Bristol '19 and Rex Bristol, our classmate. The company is one of New England's soundest, based upon good management, engineering and craftsmanship. They supply instrumentation to the complex industries typified by chemicals and petroleum which are almost automatic, thanks in large measure, to the Bristols. Marron Fort, who was general manager of the Caldwell Distilleries at Newburyport, is now vice-president. Roger MacDonald has recently been appointed plastics development coordinator for Koppers Company, Inc., at Pittsburgh. He tells us that his daughter Lorna has presented them with three fine grandchildren, and another daughter, Dolina, is a junior at Carnegie Tech. Congratulations to these classmates!

Wes Hemeon, another Pittsburgher, also keeps in the news with his publications on smoke abatement — when are they going to get you into the cigarette smoke controversy, Wes — is there no parallel with industrial smoke? As I glance out of the window while composing these notes, I note that the air is now filled with snow, not smoke, and the fog horns are sounding. Twenty-four hours have elapsed since the temperature dropped to zero, and the snow, real fine snow, can mean business. Therefore the suitcases, the food, and the St. Bernard will

soon be loaded back into the car so we can head for town before the going gets rough. P.S. As I turn these notes over for typing on Monday the temperature has risen to 60 degrees F. That is New England weather — all within 48 hours! — GEORGE WARREN SMITH, *General Secretary*, E. I. du Pont de Nemours and Company, Inc., Room 1420, 140 Federal Street, Boston Mass.

• 1927 •

As these notes are written Lincoln's Birthday and Valentine's Day are very near, and the prospects of a three-day week end has caused quite a flurry of excitement here at the office. However, since this masterpiece is due on Monday, it's now or never.

It has been just about two years since we have had news of Bill Duffy. At that time he was elected vice-president of the New England Water Works Association. Now he writes as follows: "It may be of interest for your class notes to mention that I am president of the New England Water Works Association for the current year. The January meeting of the Association at the Hotel Statler, in Boston, had Professor Henry M. Paynter, 10-44, of the Institute in charge of our Water Works School in the morning. In the afternoon session we had Professors Rolf Eliassen '32 and Professor James C. Lamb, 3d '48, of the Institute giving a paper on 'Corrosion Control by Metaphosphate Glasses.' We should call it 'Tech' day for the New England Water Works Association."

The New York *Herald Tribune* of January 22, 1954, tells us that Bud Fisher has been appointed shareholder representative for Standard Oil Company (N.J.) companies in the United Kingdom, ordination committee. At the present time Bud is coordinator of world-wide refining activities of the Jersey companies. The Fifth National Plant Maintenance and Engineering Conference was held at the Conrad Hilton Hotel in Chicago January 25-January 28, 1954. Almost 400 manufacturers presented machines, equipment, services and techniques that make possible operation of the plant at peak efficiency. Our own L. B. Woolfenden who is plant engineer, General Aniline Works, Division General Aniline and Film Corporation, Grasselli, N.J., was chairman of the conference on Corrosion Control and Prevention. Les has been with the company since graduation, holding various positions in the Plant Engineering Department. Les along with Don Spitzli are members of the Admissions Committee of the A.I.Ch.E.

On February 7 W. H. Nichols, Waltham industrial and civic leader, was named as the first man to receive the Brotherhood Award of the Waltham Lodge of B'nai B'rith. Bill was honored with a testimonial dinner at the Community Center in Waltham. "Civic leaders who nominated the industrial executive for the award said that he was recognized for his own personal identification with humanitarian activities and social welfare as well as youth programs in the community. He is also being cited for representing the Nichols family as a unit which has done so much for worthy causes in Waltham. . . . He

is treasurer of the W. H. Nichols Company, president of the board of trustees of the Waltham Hospital, chairman of its executive committee, and assistant treasurer."

"Relationship of Research to Aircraft Operations" was the topic of discussion of research authorities who participated in a round table discussion moderated by William Littlewood, Vice-president of Engineering, American Airlines. This discussion group brought together by *Skyways* magazine disclosed the need for helicopter criteria, also more systems engineering and simulation testing to help shorten time of air transport's evaluation phase. Leland D. Webb represented the Aircraft Industries Association at this discussion. Leland is vice-president and Western regional manager of A.I.A., is a Captain, U.S.N. (Retired), and holds a master of science degree in aeronautics. At this discussion Mr. Littlewood suggested that the A.I.A. membership be surveyed to determine what methods and yardsticks they use to estimate the percentage of the total amount of research and development they spend on pure research. Mr. Webb agreed to undertake such a project in the A.I.A.

The M.I.T. Club of Northern New Jersey certainly has its share of classmates among its officers, Board of Governors and Committeemen: Glenn D. Jackson, President; R. P. Westerhoff, Secretary; Ernest C. Hinck and Donald H. Spitzli, Board of Governors; and John B. Drisko, Program Committee.—JOSEPH S. HARRIS, *General Secretary*, Shell Oil Company, 50 West 50th Street, New York 20, N.Y.

• 1928 •

The following item was mailed on February 1 by the M.I.T. News Service: "The William R. Kales Scholarship Fund for undergraduates has been established at the Massachusetts Institute of Technology by Whitehead and Kales Company of Detroit, Mich., it was announced today. This scholarship fund for worthy and needy undergraduates was named by Robert G. Kales, Class of 1928, in memory of his late father, also an M.I.T. Alumnus, of the Class of 1892, and a former member of the Institute Corporation. Income derived from investment of the gift will provide the scholarships and winners will be selected by the Faculty Committee on Student Aid." It is with warmest regard that we commend Bob and the Whitehead and Kales Company for a very fine and lasting gift to the Institute.

Hyman Weinberg, Course I, was unable to get his story to us in time for inclusion in the Class Report, so it is included in this month's notes. His mail address is now: Colonel H. Weinberg, care of Air Adjutant General, HQ. U.S. Air Force, Washington 25, D.C. Hy reported that he was engaged in building construction in New York City prior to entering active service duty. At present he is U.S. Air Force Air Facilities Officer, HQ. Allied Forces, Southern Europe (Naples, Italy). He has traveled extensively in the Far East, Africa, Caribbean, South America, and Europe. Hy sent his photograph along—he's in fine shape hale and hearty. From time to time we

hear of '28 men meeting others from the Class. These are newsworthy events, and we earnestly solicit reports from them. Here are recent cases:

While attending the December meeting of the American Institute of Chemical Engineers in St. Louis, Jim Donovan stepped into the same hotel elevator with Howard Batchelder. It turned out that their rooms were only a few doors apart but Jim was about to check out, so there was time only for an exchange of greetings. Howard is now at Batelle Memorial Institute, Columbus, Ohio. Again from Jim, and essentially in his own words: "On the evening of one of Boston's storms, which had been so thoroughly publicized that everybody had gone home early, I had occasion to go into the Statler to meet some friends. As I walked into the bar at six o'clock, who should greet me but our expert charlstoner and ever pleasant friend, Charlie Richheimer! Charlie said that he was in Boston because an engineering firm in Boston with whom he was working had not seen fit to go to Florida for a consultation. So he had to leave his excellent home and travel to Boston on a stormy day like that! He mentioned that engineers in Boston had agreed to go to Florida two weeks later—and there would be no need for Charlie's trip to Boston again! Charlie's technique for finding me was explained thus: He didn't have anything to do and felt that the right place to find an old friend was to station himself at the door of the Statler bar—and he was sure that someone would walk through! Charlie and his firm are very active and Charlie finds himself on the go just as he always was when in school with us. He said that he and his wife, Booty, and their daughter still look back with pleasure to the 25th reunion."

In February, Thomas Bacon, X-A, paid a visit to Cambridge on business and spent part of the day with Walt Smith. As Chief Engineer of Lone Star Gas Company, Thomas Bacon makes his home in Dallas, Texas. He did not get to the reunion in June and this was his first visit to Cambridge since graduation. Needless to say, he was pleased with the opportunity to tread the halls of Tech again.—GEORGE I. CHATFIELD, *Secretary*, 49 Eton Road, Larchmont, N.Y. WALTER J. SMITH, *Assistant Secretary*, 209 Waverly Street, Arlington 74, Mass.

• 1929 •

The power of a prod is something I have greatly underestimated. The recent reminder and request for the return of questionnaires certainly has had results. My file is starting to bulge. Gilman Randall, IV, is living in Monson, Mass., while teaching at American International College at Springfield. He describes his switch from architecture: "After losing my first job within a year after graduation (ol' depression got me) I found that even some of the best architects were raking leaves so I hied me over to Harvard Square where they were kind enough to let me earn an Ed. M. in the teaching of mathematics without paying them any tuition. Since then I have taught arithmetic and drawing in a junior boarding school; English, French, and Latin in a junior high school in Rhode Island (jobs

were scarce that year); mathematics at Amherst High School for four years; mathematics at a prep school in Hoboken, N.J.; and since 1942 I have been here at A. I. C. teaching mathematics and, since 1947, a survey course in the fine arts as a part of the required program in general education. It ain't the way I pictured it, at all, back in days on Boylston Street, but sometimes I dare presume to hope that I am making a valuable contribution to society . . ."

Emery Low, II, brings us up to date with his changes since '29: "Having graduated in the well-known year of 1929, the depression finally caught up with me—twice. First at Eastman Kodak in 1931 and again at Sargent and Greenleaf in 1932. From '32 to '35, it was depression jobs for me until I went back to the Institute to help Professor Reynolds build the model of the Cape Cod Canal which resulted in the changes which left it as it is today. In the midst of this project, Sargent and Greenleaf called me back to take over the Engineering Department. This good fortune resulted in the consummation of my marriage to Lois which had been planned no less than three separate times since graduation. In 1941, I went with General Motors at the Delco plant as equipment engineer and assistant plant engineer until I decided to try my luck in the consulting field in 1945 with Art Hamilton '35. In 1948, I went back into industry, first at Delco and then to the Research Department at the Todd Company where I now hold forth as chief printing engineer. We have had a very full and happy life, especially since the birth of our son in '42. Vacations have been spent mainly in New England visiting parents with occasional jaunts to Canada, and so on. Have never regretted choosing Rochester as home and feel Dame Fortune has surely smiled on us."

Warren Walker, VI, sends a concise resumé of his doings as well as some well-timed philosophy and observations: "Upon graduation from M.I.T., I joined the Engineering Department of the New Jersey Bell Telephone Company and that fall received a full scholarship and returned to M.I.T. to work on my master's degree. In 1930 I joined the Edison Electric Institute, working on inductive co-ordination and lightning investigation for the next two years. From this point there were a number of jobs including a period of teaching in a private school, as well as working for an insurance company and studying to become an actuary. Joined the Weston Instrument Corporation in 1934, as an efficiency engineer. Became production manager in nine months. Remained with that organization in that capacity for 10 years. In 1942 joined the Graphite Metallizing Corporation in Yonkers, N.Y., as assistant general manager. In 1945 was elected president and director. While this is a small organization, it offers the same challenge and problems as those of a larger company. As an Honorary Secretary of M.I.T., I have interviewed a number of boys who are seeking admission. I have endeavored to point out to these young men, a feeling of reverence and appreciation for the past, the past which has made America great today. A sense of gratitude for their forefathers and for

their parents for making possible the conditions upon which they start out in life. Most of the boys of foreign-born parents, however, have a better understanding of the opportunities afforded to them in this country. I have observed that most boys, either through their families or schools, are convinced that what they obtain in life is their due and right. In general, there seems to be no real understanding of the responsibility to the past; to those people who have created the political and economic conditions which have made possible the life they now live; and the scientists and the engineers of the past who have worked out the fundamentals so that these engineers of the future may start where their life's work begins with the advantage of the knowledge accumulated in the past. I have noticed that a great many people strive to obtain advanced degrees primarily for the sake of increasing their earning power. It is my firm conviction that the ability to think logically and to know where the sources of information are, as well as to make decisions quickly, are the more important characteristics that permit an individual to make an important contribution to his environment. The only important requirement for management, after all, is the ability to make a correct and logical decision and to lead with an inspired philosophy." Warren has four children, and is living in Upper Montclair, N.J.

George Burke, IV-A, is living in Swampscott, Mass. He has two sons, both attending Tufts College. George is general superintendent for the John Capobianco Construction Company in Boston. A change of address is in for Whitney Sexton, XV. He is now in Dallas, Texas, as general manager for the Toronto Pipe Line Company. George McKenna, VI-A, was married recently to Bernice Merrill at Bridgeport, Conn. Macon Fry, VI, is currently with the Operations Research Office, Johns Hopkins University. He is living in Alexandria, Va., is married and has three children. Nathan Rosen, XIV, is professor of physics at Israel Institute of Technology, Haifa, Israel. Putnam King, IV, is living on Lowell Road, Concord, Mass. He writes of his abandonment of architecture: "Gave up the idea of architecture as a life pursuit. Went with National City Company (investments) which folded after the big boom of '29. Wound up as New England representative for Union Securities Corporation. On death of father in 1941 took over present job of running family business. Brief architectural education stood in good stead as I've remodelled a couple of houses I've lived in. Have traveled in Europe a few times, bought and sold a hardware business (came out even), raised dogs, and a little Cain now and again, otherwise life continues quietly."

Leo Goldstein, XIV, is teaching in New York City after eight years in the paper industry and one year's study in Germany. Mark Libbey, II, reports from South Berwick, Maine — no wife, no children, no job. Norman Dahl, IV, is contract manager with E. F. Mahady Company, (hospital equipment), Boston. He is living in Wattertown, Johnathan McCray, VI, is staff engineer with the Chesapeake and Potomac Telephone Company. He has been

with them continuously since leaving school, and lives in Baltimore, Md. Curtis Whiting, II, brings us up to date on his activities: "After leaving Tech, went to work as draftsman for the Boston and Maine Railroad. Two years later went to work for the Boston and Albany Railroad as assistant engineer in the Mechanical Engineers office. Three years later went to work for the Reece Machine Company, Boston, as a member of their New York sales department. Two years later, 1936, went to work for Socony-Vacuum Oil Company, N.Y.C., as sales engineer in the Industrial Lubricants Department where I remained for eight years, traveling throughout the Middle West and New England. In 1944, I was transferred to the Aviation Department as manager of Commercial Airline Sales, traveling extensively throughout the whole United States. In 1947 I left Socony-Vacuum Oil Company and returned to New England to set up my own business known as Industrial Oil and Chemical Company, P.O. Box 202, Milford, Mass. My company produces a complete line of quality lubricants, cutting oils, processing oils, motor oils and automotive specialty products, which are being sold to various industries throughout New England." He is married, has one son, and is living in Dorchester, Mass.

William W. Young, XIV, is living in Watertown, Conn. He is a manufacturer's representative for industrial gas equipment. Ralph Manchester, II, writes of his career: "After graduating I became associated with the New York Telephone Company as a plant engineer. I stayed with this company until 1933 and traveled New York State quite extensively. The depression knocked this job into a cocked hat. The latter part of 1933 I became associated with the F. C. Phillips Company (a manufacturer of screw machine products) and became superintendent of this plant. In 1944 I established my own business manufacturing molds for the plastic industry. Since 1944 the business has done very well and is still operating successfully. The oldest boy plans to enter M.I.T. this fall." Ralph is living in Eastondale, Mass. He has three sons and a daughter. Kenneth Garside, XA, having settled down in Duxbury, Mass., writes as follows: "Leaving M.I.T. January 1, 1929, I joined the staff of the Central Hudson Gas and Electric Corporation, Poughkeepsie, N.Y., where I was successively planning engineer, design engineer, construction engineer, division operating superintendent — all in gas operations. In May, 1937, I came to Duxbury, Mass., where ever since I have been engaged in the production of cranberries and in allied interests. At various times I have been an officer or director in companies furnishing services to the cranberry industry in the fields of marketing, finance, supplies, and services such as helicopter dusting and spraying, and the purchase of supplies."

Sadik Baroudi, I, vies for distance honors. He writes from Hama, Syria: "On leaving Tech, I was employed by the Syrian Government-Department of Hydraulics — as engineer-chief of Damascus District. In 1940 resigned and was employed by the French Delegation in

Beirut, Lebanon, where I worked till 1943. During that period, I designed the Hama Water Supply Project. Since 1943, I started supervising the execution of same project — thus working for the Municipality of the City of Hama. Because of the war and after the war conditions, it took us till 1948 to complete the execution. Left Hama in 1950 for Damascus where I directed the National Building Company till the end of 1952, then back to Hama again and the Water Supply Service. Doing some irrigation projects and work on the family lands, besides consulting." Frederic Bray, XV2, is plant engineer at DuArt Film Labs., N.Y.C. — PAUL F. DONAHUE, *General Secretary*, Conti and Donahue, 239 Commercial Street, Lynn, Mass. FISHER HILLS, *Assistant Secretary*, Dewey and Almy Chemical Company Cambridge, Mass.

• 1930 •

At the Midwinter Alumni Meeting at the Institute in February your Secretary saw Joe Anastasi, Enoch Greene, and Bob Quinlan. Joe is an electrical consultant who dabbles in magic as a hobby. Enoch is located in New York where he works for the Air Force as a civilian procurement agent. Bob is an electrical engineer with Doelcam. Howard Palmer, General Sales Manager for Lewis-Shepard Products in Watertown, and President of the Material Handling Institute, was recently elected vice-chairman of the college-industry committee on material handling education. Our Class President, Jack Bennett, is now a member of the M.I.T. Educational Council and as such is on the lookout for potential Institute students. Jack sees Bill Jackson occasionally and reports that the Jacksons are building a new home in Sewickly, near Pittsburgh. Their former home was too close to the Pittsburgh airport for comfortable family life. Ted Riehl met Bob Nelson recently while en route to Arizona by plane and saw Bob Clyne at the Chicago airport.

Word has been received from Orlando, Fla., that our classmate, Arthur Burton, passed away in January. To his family our most sincere sympathy is extended. — PARKER H. STARRATT, *General Secretary*, 1 Bradley Park Drive, Hingham, Mass. *Assistant Secretaries*: ROBERT M. NELSON, 48 East Lawrence Road, Phoenix, Ariz.; ROBERT A. POISSON, 150 East 73d Street, New York 21, N.Y.

• 1932 •

We have heard from Ernie Steele, 55 Harding Avenue, Hatboro, Pa. He is branch head of Radar Division of the Naval Air Development Center in nearby Johnsville. Ernie obviously cannot talk about his technical accomplishments but they must be substantial. With his family of three boys, Cub Scouting and P.T.A. activities, he reports a busy life.

Martin Meyer is partner and general manager of the Theodore Meyer Pest Control Service of Melrose Park, Pa. Martin is the regional vice-president of the National Pest Control Association. He reports that Manley St. Denis, formerly Manlio Fragiaco, is at the Taylor Model Basin, Washington with the Navy Department. He also tells me that we ought to get our project started for our 1957 class gift un-

less I would like to give them the Michigan Alkali Company! Sounds like a rather ambitious class gift. Clarence Renshaw, Jr., one of our military class associates, is chief of Military Construction at Okinawa. He has been in charge of construction of many of the major Army and Air Force installations.

F. Carlyle Roberts, Jr., is another one with important government responsibilities. He is senior sanitary engineer and is the officer in charge of the Pittsburgh Field Training Center of the U.S. Public Health Service. His wife, Eleanor Cole, is the daughter of the late Sidney L. Cole, Class of 1905. The Roberts have had quite a lot of traveling around with their three children with assignments in Bahia, Brazil, Beirut, Lebanon, and a number of cities in our country. Carlyle says the training work is intensely interesting; doesn't give him much time for extracurricular activities but he is remodeling and reconditioning an old house he bought at 254 Lebanon Avenue, Pittsburgh, Pa. Carlyle also reports that Bernard McMorro is territorial sanitary engineer in Hawaii. Carlyle is another who suggests that an inventory of the Class would be helpful which I personally feel would be very worthwhile.

Harry Shwachman, 130 Lake Avenue, Newton Center, Mass., is director of the Clinical Laboratories at the Children's Hospital in Boston and is assistant professor of pediatrics of the Harvard Medical School. He won the First Mead Johnson Award in 1951 for Pediatric Research and has numerous scientific publications in pediatric journals. Harry finds time to play first violin with a citizens' orchestra in Brookline. Lucky fellow!

Bob Phemister is now divisional controller for the new Inorganics Chemical Division with my old firm Monsanto Chemical Company. I know from close association that Bob is very busy as are most connected with the chemical business today. He lives at 723 Colebrook Drive, Webster Groves, Mo., with his wife Nora and their three boys, Bob, Tom, and Jim. Bob is a member of the Executive Board of the Eagle Scout Association and spends his spare time with gardening, golf and ship models. — ROBERT B. SEMPLE, *General Secretary*, Box 111, Wyandotte, Mich. *Assistant Secretaries*: WILLIAM H. BARKER, 45 Meredith Drive, Cranston, R.I.; ROLF ELIASSEN, Room 1-138, M.I.T., Cambridge 39, Mass.

• 1933 •

Calvin H. Mohr earns top billing this month for his long and newsworthy account of the activities of several of our Class in the Chicago area. From his home at 209 Locust Street, Marshall, Ill., Cal writes: "Last spring I met Walter Swanton at the Bio-Engineering Symposium held at Rose Polytechnic Institute in Terre Haute, Ind. He is head of the process engineering division of Pfaunder Company in Rochester, N.Y. He lives in Avon, N.Y., 18 miles south of Rochester and has two daughters. . . . Robert Smith of our Class is now production manager of the Rochester Pfaunder plant. . . . When in Chicago last fall, I visited Chuck Thumm, who runs his own company in the large plumbing contracting field. I was fortunate to spend a most enjoyable evening with Chuck at

his home in Evanston. He has a daughter in high school and a son in grade school. . . . I also spent an evening with Alfred Munson and his family. Al has two sons, who are in grade school. He is now working for the city of Chicago. . . . Bob Seyl runs his own consulting firm in Evanston. Bob does most of his work in the field of corrosion and, though I was not able to see him personally, it was a renewed contact that I enjoyed very much. . . ."

Of his varied interests, Cal writes: "In addition to my work as supervisor of Maintenance and Construction of Velsicol Corporation, producers of petroleum resins and insecticides, I have quite a few other activities. I am a member of the local planning commission, that is just starting to do much needed work. This year the A.C.S. and A.I.C.E. decided to combine their guidance work in the Terre Haute area, and I am head of the combined committee. I am a member of the adult education group at church. This work was started by a grant from the Lilly Foundation and a book will soon be published by Indiana University on the work." Cal also sent a clipping from the January *Chemical Engineering* reporting that Lewis W. Moore has been elected first vice-president of Pan American Petroleum and Transport Company, continuing as president and director of Pan American Refining Corporation and Mexican Petroleum Corporation of Georgia, and director of Pan American Gas Company, and Pan American Production Company. Bill joined the parent company, Standard Oil of Indiana, on graduation in '33. Congratulations, Bill.

A very interesting letter, too, from John C. King, who is with the Prepakt Concrete Company in Cleveland. John writes: "I spent October and November of last year in Japan getting two of the largest contractors in that country off on the right foot in their use of Prepakt Concrete. Visiting dam sites and construction projects gave me a wonderful opportunity to see Japan off the beaten track, and to experience the Japanese way of living, including sleeping on the floor and learning to eat raw fish and rice with chopsticks. The Japanese people impressed me as being cheerful, very clean, and quite industrious. I expect to deliver a joint-authorship paper at the February quarterly meeting of the American Society of Civil Engineers in Atlanta describing a new procedure we have developed for mixing concrete in place in the ground — using the soil itself as aggregate to produce concrete piles for foundation support. The family is the same except for the time element: two girls and a boy. We are still in Euclid, Ohio, a suburb of Cleveland."

S. Quimby Duntley presented a paper on "Refractive Limitations on the Resolving Power in Underwater Photography" at the fall meeting of the Optical Society of America. Wendall C. Allen deservedly hit the news with his promotion to the post of general superintendent of transportation of the western region of the Pennsylvania Railroad with headquarters in Chicago. Up to December 1, Wen was located in Philadelphia where he was active in the Philadelphia Traffic Club. He has worked continuously with "Pennsy" since he left Tech. Wen and his wife,

Alice, have a son, Richard. — GEORGE HENNING, *General Secretary*, 330 Belmont Avenue, Brooklyn 7, N.Y. ROBERT M. KIMBALL, Room 24-204, *Assistant Secretary*, M.I.T., Cambridge, Mass.

• 1935 •

Ham Dow deserves a citation for distinguished service in behalf of Notes for the Class of 1935. A letter from him provides much more meat for reporting than a secretary's usual fare of newsclips, press releases and postal cards. Ham writes from his new home at 1500 The Plaza, Schenectady 8, N.Y., that several months ago he resigned from a civilian position in the Design Division of the Navy Bureau of Ships to enter General Electric's employ at the Knolls Atomic Power Laboratory. Ham continues that he married Edith Doshim of New York soon after graduation and worked for the Bethlehem Shipbuilding Division of Bethlehem Steel in Quincy until early in 1939. At that time he went to Washington with the Bureau of Ships. He spent 1943 and 1944 in Long Beach, Calif., helping organize a naval shipyard. Early in 1945 he returned to Washington where he lived until last September. Ham and Edith have two daughters, Jocelyn, 14, and Merrilyn, eight. Ham mentions seeing Irv Banquer just before leaving Washington and finding Leo Epstein working at the Knolls Laboratory on his arrival in Schenectady. Leo has been at the Laboratory since shortly after it was established in 1947 and is doing metallurgical research. Ham is not specific on his work except to state that he has been assigned to the Systems and Arrangements Sub-unit of the Power Plant Unit. That is quite a name for a department, but no more so than the names of several others mentioned in a Knolls Laboratory publication Ham enclosed with his letter.

A postcard from Captain Stanley Alexander, U.S.N., reports his assignment to the Pearl Harbor Naval Shipyard as planning officer. For three years before this assignment Stan was a student and staff member of the Industrial College of the Armed Forces, Washington. He was associated with our Class as a graduate student. Don Wood writes briefly from Corpus Christie, Texas, that after three years of moving around, some of the time in England, he has settled in Corpus Christie at the main office of the Tropical Steam Ship Company. Tropical Steam Ship is a subsidiary of the Reynolds Metal Company, operating ore carriers, from Jamaica. Don's time in England was spent representing the owner during construction of one ore carrier. Bill Poisson writes that he is laboratory director for the Hathaway Manufacturing Company (Textiles), New Bedford, and lives with his wife and four youngsters in Mattapoisett. In November, Bud Taft was promoted to Director of Sales for the Photo Products Department of Du Pont. Bud has worked for Du Pont since graduation and lives in West Chester, Pa. Bev Dudley and Luke Packard continue their side-line association with the Institute of Radio Engineers, Bev., as chairman of the Boston Section, Luke as a regional director. The Norton Company, Worcester, has promoted Bob Clarke to Superintendent, Abrasive and Bond Plants. Bob has been with Norton since 1936 with

an interruption for service with Uncle Sam. At the time of his discharge Bob was a captain in the Corps of Engineers. Charlie Taylor has had to retire for reasons of health. He lives on St. Simon's Island, Ga.

Accumulated newsclips include unwelcome word that Henry C. Babcox died at his home in Shaker Heights in July. A graduate of Ohio State in architecture, Henry entered our Class as a junior and earned his degree in City Planning. At the time of his death, Henry was president of the Babcox Construction Company in Cleveland. An announcement by General Electric Transformer Division, Pittsfield, explains that Stan Howard has been made supervisor of lightning arrester and cut-out engineering. Several months ago, Arthur Gilbert rejoined the Equitable Life Assurance Society as a second vice-president on the staff of Charles W. Dow, Senior Vice-president. After graduating from Tech, Arthur earned his master's degree at the Harvard Business School and entered Equitable's employ in 1937. Until 1951 he served in the securities investment department. For two years before returning to Equitable in May, 1953, Arthur was associated with the Freeport Sulphur Company. The thinning ranks of class bachelors lost a member this summer. In June Sam Fox married Miss Virginia Mueller of West Hartford. Your Secretary is compelled to comment that a picture in the Hartford *Times* vouches for Sam's good taste. Along with remarks about while gladioli and snapdragons, the *Times'* article goes on to explain that Sam and Virginia live at 4 Arnold Way, West Hartford, and that Sam works for Pratt and Whitney Aircraft. A clip from the *Atlanta Journal and Constitution* announces the engagement of Herbert P. Haley to Miss Helen Peacock of Albany, Ga. Herbert graduated from Georgia Tech and studied for his M.S. and Sc.D. degrees at the Institute. He is president of the Albany Cocoa-Cola Bottling Company.

Announcements by the Campbell Soup Company mention promotions for two of our classmates, Hal Bemis as manager of Public Relations and Howard Bernhardt as assistant to the Director of Research and Development. Clarke Nichols wrote an article appearing in the September issue of *Electrical Engineering*, its title, "Techniques in Handling Load Regulating Problems." In March last year Tom Keeling was appointed president of the Hydrocarbon Chemicals Division of the Mathieson Chemicals Corporation. Bill Parker has resigned as an assistant metallurgist with the Taft-Pierce Manufacturing Company in Woonsocket to become metallurgist at the Pitney-Bowes, Inc., Stamford, Conn. Bill and his wife have three youngsters. A press release by the Solvay Process Division of the Allied Chemical and Dye Corporation explains that Isaac H. Munro has been appointed assistant to the Executive Vice-president. Munro was graduated from Colgate and received his master's degree in chemical engineering at the Institute in 1935. He lives with his wife and two children in Camillus, N.Y. Word of another graduate student associated with our Class states that Anthony M. Lowell has been appointed statistician for the New York Tuberculosis and Health Association.

Lowell was graduated from Alfred University and received his master's degree in public health with our Class. Vinton K. Ulrich has resigned as renewal sales manager for the National Union Radio Corporation to become general sales manager for the David Bogen Company, Inc., New York City. Vin has been active in radio engineering and sales ever since graduation.

Classmates who were present at Alumni Day in June were Randy Antonsen, Bill Abramowitz, Bill Brockett, Art Cohen, Jack Colby, Bev Dudley, Pete Grant, Fiske King, Vince Mooney, and Walt Stockmayer. At the Midwinter Meeting of Alumni in metropolitan Boston in Walker Memorial on February 4, the following were present: Murray Brown, Bev Dudley, Pete Grant, George Forsburg, Herman Laudani, and George Kevorkian. Tom Rinaldo and E. B. Beede made advance registration but were not present.

Eric Jones and his wife, Betty, visited your Secretary briefly in the fall. Eric has his own firm near Philadelphia, the Delbar Products Inc., manufacturers of truck and bus mirrors. Eric and Betty are ardent sailors in their cruising sloop on Chesapeake Bay. Another night visitor in Fairfield was Jim Notman. Jim sells for the Terrell Machine Company, textile equipment, and travels extensively through the northern states. Home for the Mrs. and youngsters is in Marion, Mass. Jim has a boat and is another sailing enthusiast. Your Secretary is one, too. Last summer I crewed in 25 Lightning Races on the Sound. The skipper is a Harvard man. We placed third in the summer series for the 11 boats at the Black Rock Yacht Club and placed reasonably well, short of winning any hardware in races at the Noroton, Pequot, Milford and Niantic yacht clubs. With spring approaching we are looking forward to more racing and good fellowship with that sterling fraternity, the sailors. Late word has it that Randy Antonsen has been named Kingfish (chairman) of the Boston Section of the A.I.Ch.E. — J. BARTON CHAPMAN, *General Secretary*, 7 Lalley Boulevard, Fairfield, Conn.

• 1938 •

I would like to give feature billing this month to a delightful letter from our Assistant Secretary, Fred Kolb. I'm sure our other Assistant Secretaries are going to follow his example, post haste. "This informal and illegible note is to complete a project that I undertook in all eagerness in December — with the chance of a snowball in you-know-where since! Prexy Lou Bruneau sent out a clarion call in November for as many loyal '38 men as possible to assemble in New York at the Gerard Swope Silver Stein dinner. By what must be described as ideally good fortune that coincided with a business jaunt for me, and skipping the formalities of black tie, I kept on my yellow sport coat and joined the crowd Friday night, December 4. It wasn't exactly a crowd at that, for we just barely counted a delegation of seven: Lou and Sandy Bruneau, Dave and Betty Wright, Bud Green and his sister Mary, and I. We even had to share a table with '36 and '37. Among those present in spirit only were: Bert Grosselfinger on a short business trip to California look-

ing for a fertilizer angel; John Craig tied up with the responsibilities of a Cub Master running a regional meeting; and Ed and Jean Hadley abed with colds.

"Huddled together in the penumbra of a very local band we discovered that Bud Green is resident engineer for Woodcrest Construction Company, currently building the first overpass that crosses the George Washington Bridge on the Jersey side. Dave Wright announced a toast to the Texas Barge Company, which had just been taken over by his Lake Tankers Corporation, and lived one whole day before dissolution. As a special inducement to what bachelors remain in '38, Dave offered honeymoon cruises on three of his boats. Accommodations are limited to two persons per boat, destination is entirely unpredictable and furthermore subject to change, and honeymooners always tip liberally! Fortunately Don Severance had not made the trip from Cambridge, for at that time he was still wont to stretch out flat on his back on the cold hard floor to relieve the pressure on his split spinal disc — entirely out of character compared to the upright behavior of Dr. Compton, Dr. Killian '26, Mr. Snyder, 2-44, and Lobby '17 who did represent Cambridge. Shortly before midnight I left that pleasant company to hop the night train back to Rochester — where overnight I changed from 'that expert from Kodak' to employee 209019 with nine reports and a one-foot stack of correspondence already overdue.

"Now at this time nearly two months later I'm scribbling this on the way to New York, this time to head onward to France and our plant in the outskirts of Paris. In the luggage are four dictionaries, a guide on where to eat, and six maps. The largest map is on loan from the boss who carefully pointed out that without a map I was in danger of getting lost, and therefore in danger of being solicited before I could regain the sanctity of my hotel. However, with the maps and dictionaries, raincoat and camera, and a supply of travelers checks I guess I'm prepared for anything! I'll be in touch with you on my return, Dave, with a story about the two other '38 men who represent all that Rochester has been able to scrape together."

We have received three more communications this month — Ira Lohman, Jr.: "Am still with I.B.M. in Endicott Engineering Laboratory, but am working in Defense Engineering and can't discuss my work. Have been in our house nine months now, but it is still unpainted. We seem continually to be short of both time and money. Our children, Linda, Judy, and Guy are now nine, seven, and five, respectively. Hope you'll come see us sometime."

Fred Ray: "I am still with Socony-Vacuum Oil Company but have been transferred from the Research and Development Laboratories in Paulsboro, N.J., to the Refinery Engineering Division at the main office in New York City. I'm in charge of a small Technical Service Group. We are supposed to help our refineries squeeze the last drop out of their operating units. Since I helped to design some of these units, this could prove embarrassing. Meanwhile, we have moved from the relatively low-cost South Jersey

area into the high-cost North Jersey area. Do you know where I can buy a budget-stretcher?"

Jim Gillis: "Am still working for the Steel Hull Supt. here at Newport News Shipbuilding and Dry Dock Company. Our biggest job at the moment is building the first of the super carriers — *The Forrestal*. My five kids make life at home just as noisy as the shipyard. Always glad to hear and read about what is happening at Tech."

Ab Byfield: "Can't remember the last time I wrote any news of myself for The Review — so don't know where to start. I am still with Kimberly Clark Corporation in Neenah, Wis., and my current job is manager of Product Development — a division of our Sales Department. Our responsibility is just what the name implies, and we are very active in various fields which will lead to considerable diversification for the Corporation in years to come. Lots of M.I.T. men out here, but no '38 men I know of. Someday we may try to organize an alumni club. As to family, Betts and I have three, David, 14, Peter, 10, and Anne, three. We also have a dog, a parakeet, innumerable fish of all kinds, and a boat. The latter is one of our most active projects, and we are already planning next summer's cruise on Green Bay and Lake Michigan."

David J. Torrans: "I am still with Hercules, but no longer at Parlin Plant. Am now at the Experiment Station in Wilmington on Pilot Plant work. The new address is R.D. 4, West Chester, Pa. Sold the farm in New Jersey to my great regret. Now have only six acres — too small to be productive and too large to mow." Robert York: "Appointed assistant director, General Development Department (staff), Monsanto Chemical Company, St. Louis, in May, 1953." Chauncy Bell: "Same job but faster pace these days — recently made a trip to Hawaii, Japan, Hong Kong, Philippines, and return. Family now includes five children, three of our own, and two nieces living with us indefinitely — so never a dull moment at work or at home."

Fred Jenks: "At present am manager of the Radar Systems Department of the Missile and Radar Division of Raytheon Manufacturing Company. Came to Raytheon in 1946. Previously was with Sperry Gyroscope Company on the development of systems in San Carlos, Calif., and then of microwave instrument landing systems at Garden City, N.Y. At National Union Radio in Newark before that. Am married, have three girls, (12, eight, four months), own my eight-room house in Dedham, have eight-room summer place in Casco Bay, Maine, and in general enjoy life."

Ed Hadley: "Still at Bell Laboratories, except off telephone work again and back on government apparatus design. Production slowing down at home — sixth child is already 10 months old and no sign of a seventh. However, we've just moved into a house double the size of the 'old' one (also twice the age of the old one). Enjoyed seeing everybody last June — would like to see more at the twentieth." Jay P. AuWerter: "Only news I can think of at the moment is that we're moving to our new house in a couple of weeks, and

that the new address is 23276 Laureldale Road, Shaker Heights 22, Ohio."

Howard Banzett: "Still working for Alcoa, but am about to give up my lifelong status as a resident of New Jersey. Will move to Lancaster, Pa., around February 1, as production manager of a new plant now being completed there. We hate to leave our new home here, but have procured an acre of ex-golf course near Lancaster and will start to build another one next spring. In the meantime address communications to me at Aluminum Company of America, Lancaster, Pa."

Carle McEvoy: "Since leaving school, served Uncle for a period. Then, after a few years around Chicago, in steel parts manufacturing, left the cold North for marine construction in tropical Florida. My partner and I run our own business. I've been married 13 years, to Joyce, have a girl Susan, 12 years, and Carle, 3d, 11 years."

Arch Copeland: "Reported to W. Wochos lately that I had talked to J. Hess while in Toledo, Ohio. Nothing new in my life except a parakeet added to the family." Haskell R. Gordon: "This year we completed our new home after almost one year of building operations. We sure hope this is the last move for years to come. My mill supply business has grown tremendously, and I'm quite satisfied that I'm in the right business. This wasn't always so. Daughter Susan is 10½, son Gary is seven. See you at the next reunion. Had a swell time at Lenox at our 15th class reunion."

Jim Emery: "Have left the transit industry for a very favorable connection with the subsidiary railroads of Bethlehem Steel Corporation, and am now in training at the South Buffalo Railway, Lackawanna, N.Y., with the title of Special Engineer. Three children now — Sally Mai, 11, Pamela Ann, three, and JAE, 3d, six months. Haven't met '38 men here as yet — nor M.I.T. men for that matter — but am sure the western New York woods must be full of them. Will look forward to establishing contact with the local alumni group."

John Craig: "Things have been quite busy for me the past few years, both at home and at work. I've been at Bell Laboratories now for 15 years, the last four in Switching Engineering. Present assignment involves the engineering of local switching (dial) offices. Have been up to my ears in Eta Kappa Hu alumni work; president of the New York chapter the last two years. Still living in Glen Rock, N.J., where my three children (12, 10 and four) keep me busy, too. Being a Cubmaster has been a lot of fun for two years. See Chet Williams from time to time."

Dave Morse: "Not much of note — I see Burt Aaronson on occasion who has re-married and is busy with his children's store in Brookline. No mansions have rolled off the drawing board, but we did get a school addition in at \$14,000 a room — about one-half the state average — of which we are quite proud, and Natick is quite pleased. Looking forward now to some skiing and the holiday season."

David E. Irving: "Not much in the way of news. There are three daughters in the Irving family. (No M.I.T. candidates!)

Still with the Budd Company — Red Lion Plant — building railway cars." Abe Fine-man: "Pre-war: research biophysics; During war: physicist U. S. Signal Corps — M.I.T. Radiation Laboratory; Past: medical school and specialty training; Present: research and private practice in psychiatry; Personal: married, one son (M.I.T. 197?)."

Frank Gardner: "Saw Fred Reuter and his family while in Cleveland last fall. If he hasn't already reported this, he is superintendent for the Victoreen Instrument Company. Is it old news that Jim Hess is with Kaiser Aluminum and Chemical Corporation in Spokane, Wash.?" Les Kornblith: "There is no particularly new news from me. For the past six and one-half years I have been with the Institute for Nuclear Studies at the University of Chicago. I am chief engineer for the Institute and am responsible for the operation of the 450 Mev synchrocyclotron and 100 Mev betatron. Two children — Nancy, 10, and Dick, six."

Paul Tillson: "About one and a half years ago I left the law firm and went with the Patent Department of Gulf Oil Corporation which necessitated moving from Washington to Pittsburgh. This September we moved into a house we built in Mt. Lebanon, one of the suburbs. Don't see any M.I.T. men of our time except Jerry McAfee who became vice-president of Gulf Research and Development Company on January 1." — DAVID E. ACKER, General Secretary, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge 42, Mass.

• 1939 •

Plans are reaching their final stages for our 15th reunion at Snow Inn, Harwich Port, Mass., from June 11 to June 13. You all should have received several notices telling about the event, so this is just a reminder for you to let us know that you are coming. Some of the boys who have indicated they hope to be present are Manning Morrill, Joe Dana, Maynard Drury, Charlie Hobson, Ben Howes, John Krey, Martin Lindenberg, Dave Morgan, Stuart Stearns, Wade Caywood, Phil Epifano, Jim Hunsaker, Phil Lucas, Chuck Mercer, Paul Stanton and Bob Thompson. As of February 12, only a few cards have been returned since the first notice was mailed on February 9. So far, however, more than half of those that have come in have said they'll be there. We'll give you more names next month when the return notices are complete.

Manning Morrill had dinner with your reunion committee a couple of weeks ago. He is plant manager of the Dewey and Almy plant in Cedar Rapids, Iowa. He will help co-ordinate transportation from his area for those coming to the reunion.

The Midwinter Meeting was a big success attended by Jack Krey, Bill Widlansky, Murray Schlesinger '40, Seymour Sheinkopf, Fred Grant, Ed Vivian, Al Graffeo, Ernie Kaswell, and Al Rugo. — Assistant Secretaries: GEORGE BEESLEY, 38 Homestead Road, Lynnfield Center, Mass.; MICHAEL V. HERASIMCHUCK, P.O. Box 495, Bethlehem, Pa.

• 1940 •

This month the greater part of the news concerns promotions and commendations

received by classmates. Charles Wampler was elected president of the Wisconsin Telephone Company effective January 1. Previously Charles was vice-president of American Telephone and Telegraph Company. Fred Hammesfahr has been elevated to Manager of the Chemical Process Development Section of the General Electric Chemical Division's Engineering Department. Fred joined General Electric in 1951 as section head of the Chemical Process Development Section. Ed Seim has been appointed plant manager of the Plywoods-Plastics Corporation, a subsidiary of Westinghouse Electric Corporation. Previously he was superintendent of the Wiring Device Division. Ed originally joined Westinghouse as a junior engineer with its Bryant Electric Company subsidiary. Last year Louis Michelson received a commendation award for his work as technical director of the Research and Development Department of the Naval Torpedo Station, Newport, R.I. This year it was a repeat performance for Louis. Just typical examples of 40 men doing their job and doing it well!

Louis Berger, for the past five years Professor of Civil Engineering at the Pennsylvania State College, has given up teaching to go into private practice. He has opened an office in East Orange for consultation in Soil Mechanics and Foundations in addition to his work on expressway and turnpike design which he is still handling temporarily from State College, Pa. Classmates can get in touch with Louis at 1 North Harrison Street, East Orange, N.J. Take advantage of one of those rainy April days and write to Al. — ALVIN GUTTAG, *General Secretary*, Cushman, Darby and Cushman, American Security Building, Washington 5, D.C. MARSHALL D. MCCUEN, *Assistant Secretary*, Oldsmobile Division, General Motors Corporation, Lansing 21, Mich.

• 1941 •

Two letters arrived in the past month, and they are especially welcome, for the clipping service seems to have struck no oil at all, as far as news is concerned. The letters were from John Symons and Walt Turansky, and since John's came first, I'll quote (freely) from him: "After 12 years in the Research and Development Division of the Maytag Company in Newton, Iowa, I resigned my position there as assistant to the Director of Research and Development at the end of August. The first of September I joined Talon, Inc., in Meadville, Pa., and have since been in training. On the first of February I will take over the job of assistant manager of Research and Design. I was married in 1946 to Miss Dorothy Bergstrom, a graduate of the University of Minnesota. We have one daughter, Wendy Sue, who was born in September, 1950, and another child is scheduled for May delivery. There are several Tech Alumni at Talon, but none from our Class. I find the slide fastener industry most interesting and challenging. The engineering involved is considerably more extensive and complex than I had imagined when I was back in Iowa. The family is well pleased with Meadville, and we like this part of Pennsylvania. As far as other biographical ma-

terial is concerned, about the only other item of interest is that I served as chairman of the Central Iowa Section of the A.S.M.E., 1950-1951."

Walt wrote as follows: "In 1950, I was recalled to active duty by the Army and served as assistant professor of Military Science and Tactics at the Polytechnic Institute of Brooklyn. My entire tour of duty was spent in Brooklyn, which was not too hard to take after the initial shock of repeat service had worn off. While attending the Engineer School at Fort Belvoir during the summer of 1951, I met Lieutenant Colonel Bill Hart. At that time, Bill was a member of the faculty at the Engineer School. I understand he is now attending the Command and General Staff School at Fort Leavenworth. While running a demonstration at the R.O.T.C. exhibit during the Open House at Brooklyn Poly, I saw that one of my audience was Vic Forzley. I learned that he was attending the night school at Poly and was about to receive his master's degree in mechanical engineering. He was then going to start working on a master's in electrical engineering. On my discharge from the service in May, 1952, I returned to the building construction industry in Hartford. I am president of Hartford-General Constructors, Inc., and engaged in the construction of commercial, industrial, and institutional buildings." Thanks very much, John and Walt; it was good to hear from you both. Just as a reminder to others of you who may be thinking of writing, the deadline for the July issue is May 15; I need the material by then if it's to appear in *The Review* before November, so let's hear from you!

A news item from the *Boston Post* tells of a meeting of merchants, innkeepers, and disgruntled skiers from Manchester, Vt., voting to start a fund-raising drive to hire Wallace E. Howell, who had told the group that, by use of smoke generators to carry silver iodide particles aloft, he could increase by 25 per cent the snowfall in the Bromley Mountain area. The article goes on to say "His seeding of clouds [in the New York City watershed] which chemicals was so successful that more than 100 Catskill farmers sued him for ruining their crops. Since then he has made rain in a dozen states and foreign countries, while carrying on further research at Harvard University."

New address changes include: Ralph Abrams, Sharon, Mass.; Lieutenant Colonel J. Raymond Berry, Jr., Long Beach, Calif.; John E. Bone, Ridgewood, N.J.; Commander James A. Brown, U.S.N. Administrative Unit, M.I.T.; Leslie Corsa, Jr., Berkeley, Calif.; Sherman E. Crites, Wenham, Mass.; Arthur J. Dore, Short Hills, N.J.; Raymond M. Fairbrother, Deep River, Conn.; Captain Robert B. Fulton, 2d, Chatham, N.J.; Rudolf W. Hensel, Winchester, Tenn.; Joseph E. M. F. Lecavalier, Strathmore, Quebec; Donald McDonald, Cook Research Laboratory, Skokie, Ill.; Monroe L. Norden, Stamford, Conn.; Miles Ross, Glendale, Calif.; Colonel Anthony T. Shtogren, Langley Air Force Base, Va.; Captain Harry Sosnoski, Naval Research Center, Port Washington, N.Y.; Commander Frank G. Springer, Naval Shipyard, Long Beach, Calif.; Herbert A. Stein, Queens

Village, N.Y.; Slioma B. Vindsberg, Jackson and Moreland, Boston. — IVOR W. COLLINS, *General Secretary*, 28 Sherman Road, Greenwood, Mass. JOHAN M. ANDERSEN, *Assistant Secretary*, Saddle Hill Farm, Hopkinton, Mass.

• 1942 •

This month's mail brought a very interesting report on "Semiconducting Inter-metallic Compounds." Research in this field is among the important projects now being carried on at the National Bureau of Standards. N.B.S. Report #1796 begins "Investigations into the fundamental properties of semiconductors have revealed that certain intermetallic compounds show promise of extended use in solid state electronic devices. Current research, under the direction of R. G. Breckenridge (who received his Ph.D. in Physics with us in 1942) of the Bureau's solid state physics laboratory is concerned principally with the conductivity and the hall effect of such metal compounds as indium antimony (InSb), and aluminum antimony (AlSb). Of immediate importance is the fact that these combinations may have equal or greater utility than the germanium and silicon semiconductors presently in large demand . . . for transistors, etc." Accompanying the report is an announcement that Dr. Breckenridge has been appointed chief of the Physical Electronics Section of the Atomic and Radiation Physics Division of the National Bureau of Standards.

A newspaper item tells us that John R. Thompson has become a candidate for School Committee in Holyoke, Mass. The *Transcript-Telegram* brought us up to date on John's activities over the years and his current busy schedule. He is president of the M.I.T. Club of the Connecticut Valley, secretary of the Society for the Advancement of Management and an officer of the Holyoke Lodge of Elks. He is now at the Package Machinery Company in charge of industrial engineering after having been associated with Worthington Pump and Machinery, Fercleve Corporation, Oak Ridge, Tenn., and the General Electric Company. In addition, he has taught evening classes at the Holyoke High School and the Holyoke Trade School. Back in 1943 John married the former A. Esther Flanagan. They have two children, Danny, aged five, and Christine, aged three. Good luck, John. We all wish you success in your campaign.

Fred Olsen dropped in the other day to see the latest in photographic type composition. We had a pleasant chat and learned that he is now supervisor of planning for the Research Department of Olin Industries, manufacturers of batteries, Winchester Arms and Ammunition, brass products, and a long list of products documented much more fully in a recent article in *Fortune* magazine.

A note from Bernie Driscoll reporting that the three boys, household goods, and lots of Christmas cards, made the trip back across the Atlantic Ocean in good and uneventful style. And a card from Clarence Eckmann who has returned to Racine, Wis., after tours at Wilmington, Del., and Wyandotte, Mich. He is now in the metal stamping business in his home

town. He is married to the former Margaret C. Stewart and is the "proud pappy" of two youngsters. All for now. Best wishes for an early not-too-wet spring (except for the skiers).—LOUIS ROSENBLUM, *General Secretary*, Photon, Inc., 58 Charles Street, Cambridge 41, Mass.

• 1943 •

Your Secretary has received the following change of address notices: Burton S. Angell, Daisy Lane, Schenectady, N.Y.; Lieutenant John B. Berude, 15 Lufbery Street, Milton, Mass.; James R. Casserly, 54 Cuyler Road, Princeton, N.J.; Andrew M. Granese, 315 Pearl Street, Hartford, Conn.; Commander Paul G. Schultz, Quarters G, Portsmouth Naval Shipyard, Portsmouth, N.H.; Commander Ralph A. Smith, 201 Ocean Avenue, New London, Conn.; Charles J. Swet, Sweetwater Road, Glen Mills, Pa.; Ervin A. Volbrecht, Box 1496, Spenard, Alaska; William B. Voorhis, Tung Sol Electric, Inc., Color Television Division, Bloomfield, N.J.; Richard D. Wade, R.D. 1, Fayetteville Road, Manlius, N.Y.; Harold J. Weiss, Woodside Circle, Simsbury, Conn.

Perchance you have moved to a new address, changed jobs, married, become a parent, gone on a vacation, received a promotion, or met a classmate hither or yon—then dictate the whole story to your wife or secretary and mail in the manuscript to me.—RICHARD M. FEINGOLD, *General Secretary*, 49 Pearl Street, Hartford 3, Conn.

• 2-44 and 10-44 •

Many thanks to Scott Carpenter and Ken Scheid for pinchhitting while I toured Europe during December and January. Although the trip was primarily business, my wife (formerly Bobbie Handelman) and I managed to sneak away long enough to enjoy Paris, Switzerland and the Riviera. No, we did not take the three children. On my return I met Lew Demarkles at an M.I.T. dinner and found that he left the M.I.T. Laboratories, and is now an entrepreneur, heading the Associated Engineers of Boston. Lew's outfit handles engineering and the manufacture of electronic subassemblies.

Another '44 entrepreneur is Marty Hird who heads the David Manufacturing Company in Brooklyn. Marty makes the plastic-covered table tops that are used in the chrome dinette furniture field. The company I am with, Reiss Associates, sells Marty the plastic, so I get to see or speak to him quite often. His company started off in 1950 with a few employees and a minimum of space, but with some clever machinery of Marty's design. Today, after three moves into larger quarters, Marty and his 70 employees are still cramped and plan another move. The Hird family consists of his wife Sydelle, a son David, and daughter Pamela.

Don Arsem is with General Electric in Syracuse and has recently been appointed manager of advanced products development engineering in the electronics laboratory there. Don joined General Electric in 1948 after service with the National Bureau of Standards and R.C.A. He has served in the laboratory on electronics applications for guided missiles

and had been section engineer on magnetic materials since November, 1952. The *Journal of Applied Physics* featured an article by Henry Ivey in the December '53 issue entitled "Approximate Solutions of the Space Charge Problem for Some Unusual Electrode Geometries." Bob Benedict is working for the Celanese Corporation in Charlotte, N.C., as assistant to Director of Purchases. Bob married Dorothy Burdick, a Simmons graduate, and to date they have two children, Christine, five, and Mark, two. Bob writes that they spent two delightful years in San Juan, Puerto Rico, where he was consultant to the government as specialist in transportation on their economic development program. They left in '53 and returned to the United States via the Dominican Republic, Haiti and Jamaica. Nice living, Bob!

Pete Davis is now a project engineer with the Vitro Corporation of America. Over the past few years Pete has spent two years on field construction at the Hanford Plutonium Works in Washington and managed to marry Barbara Smith Davis and produce two male offspring. During his travels, Pete has met Bill Krutzsch'48, George Keller'48, Bruce Lamberton, Jack Taft, Bill Barton'40, Jay Schwartz, Ted Jay, Lee Hanower'47 and Bill Lockwood'48. K. T. Momose has bought himself a big baseball bat and has been swinging it actively enough to remain single all these years. He had 20 months in Korea and was discharged in November '52 to go with Wescott and Mapes, Inc., in New Haven, Conn.

Another stalwart who has resisted the advance of the fair sex is Gordon MacDowell. Gordon is with Wallace E. Howell Associates in Cambridge and engaged in the mystical profession of producing rain on request. Gordon's note was written from Havana where he met Gonzalo Docal. Last year Gordon left Providence on the 42-foot schooner *Victoria*. They hit quite a heavy storm and were reported missing for three days. The Coast Guard spotted them and was about to send assistance when the weather abated. The vessel and crew arrived in Bermuda, but a little worse for wear and tear. John Gardner informs us that he is in Seymour, Conn., working for the Kerite Company, a cable manufacturer, as an electrical engineer. Jack is married to Dorothy Dietrich, and they are parents of a boy and a girl.

With R.C.A. in Harrison, N.J., we find Len Harris. Len is living in West Orange with his wife, Nancy, Jonathan, three, and Marilyn, one. His work with R.C.A. has been in the development of adhesives, inks, and plastics for the use in the manufacture of electronic tubes of all types. Bud West recently completed two years of active duty with the Air Force as liaison officer to the Division of Defense Laboratories at the Institute. Bud is now living in Shrewsbury, Mass., and is employed by the American Steel and Wire Division of United States Steel. His wife is the former Elizabeth Sweet, and the four children number two boys and two girls. Mr. and Mrs. plan to make the reunion.—BURTON A. BROMFIELD, *General Secretary*, 608 Grove Street, Newton Lower Falls, Mass.

• 1945 •

In the latter part of January, we received Bill McKay's overdue newsy letter from which we quote for the most part: "At long last, here is some news I have picked up over the past few months. Last summer was a hot hectic period which we spent in many trips between Boston, Cape Cod, Louisville, and Baltimore; the fall proved just as hectic, getting set up in the new job. It was a grand relief to get out of the Navy in June. We fully intended to settle back in Boston; however, after a month or so of looking around, I decided that my present deal here in Baltimore with A.A.F. was the most attractive. Thrusting my love for Boston and the Cape aside, I made the break and am quite contented now. Betty and the family spent the summer at Craigville and managed to rid themselves of all the cold-bugs which plagued them in sunny Florida. The climate here is fine, and Maryland is a very picturesque state to travel around in. So much for me and mine—I have a few news items about some of the old gang which I should have sent you long ago." Bill is a sales engineer with headquarters in Baltimore for American Air Filter, manufacturers of air filtration and dust control equipment, as well as Herman Nelson products.

"In July, I 'Best Manned' for Andy Marocchi in Pittsburgh; Andy married Anne Adams of Mt. Lebanon, and the happy couple is now residing in said suburb in their new home. Andy is learning all the joys of a home-owner, and I understand that he enjoys cutting the lawn and gardening. Of course, he doesn't get too much time for it since he has been traveling a lot doing atomic energy work for Westinghouse. While in Pittsburgh I talked with Bill Humphreys, my neighbor in Needham, fellow worker at Sturtevant, and, as you will remember, one of the Dekes from up the Street. Bill is still with Sturtevant, has bought himself a home in Pittsburgh, and now has four daughters. One more and he will get the Eddie Cantor award for valor!

"In August, I managed to get together with Max Ruehrmund twice—first in Baltimore and then at his farm in Rock Hall on Maryland's eastern shore—a very nice setup right on the Bay. Of course, he doesn't do the farming himself for he is still with General Foods, but he and his parents have done a wonderful job remodeling the place for week ends and vacations. I travel that area so I shall keep you informed—one of these days I might even be able to write about his wedding! As yet, I can't give you a scoop on Bill Meade. At Christmas we had a minor '45 reunion at West Roxbury. Ray Pelley, Wally O'Connell, Red Harrington, and I were under the same roof for the first time since graduation. Jerry MacKinnon was supposed to be there, but couldn't make it. Ray and Jeanne with son, Rip, were in from Cincinnati where Ray is doing very well with Procter and Gamble at their Ivorydale Plant—another case of a Course XV man succeeding.

"Shell Oil has transferred Red Harrington to Hartford, Conn., and he is just the same as ever except for an added four inches to his lower chest measurement.

He and his wife Jane have two little girls now and are living in Manchester, Conn. He still blasts 'Geronimo' for all those week end restrictions, and we all join him in that. Wally O'Connell is now working as a mechanical engineer with Vitro Corporation, New York. He and Louise are living in Maywood, N.J. Okie promises he'll show up at a reunion one of these years — the 10th for sure. Had a Christmas card from Waite Stephenson — he is now out of the Navy and his new address is Berkeley, Calif. I hope Steve hasn't given up the beautiful East Coast for rainy California." Thank you for a wonderful letter, Bill, filled with plenty of news.

I know that you Phi Gams, as well as many others, will be pleased to learn that Hank Rudkin has taken the fatal step. At a four o'clock ceremony in St. Thomas Episcopal Church, New York City, on Saturday, December 19, Dorothy Sampson Smith was married to Henry A. Rudkin, Jr. The newlyweds were both residents of Fairfield, Conn., and it is interesting to note that Dorothy was a professional artist before marriage. After a year or so at Tech, Hank matriculated with the 27th Division in the Pacific before returning to complete his formal education at Yale University, Class of 1949.

Through our sources of information we have learned that Rog Hood, now out of the Navy, has joined Control Instrument in North Attleboro, Mass. R. Tully Bradford, M.D., has commenced practice of ophthalmology in Cincinnati where he is also sewing on the staff of the University of Cincinnati's College of Medicine. A biography of George E. McKewen, Jr., reveals that George was employed by General Electric as a marketing trainee in mid-1947. In the fall of '48, George was transferred to the Baltimore office of Locke and Company, a General Electric subsidiary, as a sales engineer, where in his spare time he won the hand of Janice Waller, who finally said yes in March, 1950. The year, '51, saw George in Chicago where he now remains as sales representative to utilities and electrical apparatus manufacturers, selling transmissions, insulators and hardware. Needless to say, the stork paid a visit in 1952 and brought a son Glenn.

Recent changes of address have Guy Gilleland forsaking sunny Jacksonville for New York City, commuting from Scarsdale. Bill Niedhamer of Ralph M. Parsons Company has left Chicago to return to the home office in Los Angeles, while Randy Esten has moved from Arlington, Va., to Columbus, Ohio. Don Severance recently wrote me that "on campus" facilities are pretty well booked by reunioning classes in 1955. Yes, 1955 is our 10th reunion, and unless you guys and gals give us some indication of reunion preferences soon, it will definitely be an off-campus affair due to sheer necessity. Please let us have your thoughts when you pass on those choice news tid-bits! — CLINTON H. SPRINGER, *Secretary*, Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York 17, N.Y. *Assistant Secretaries*: WILLIAM J. MCKAY, 325 Overbrook Avenue, Baltimore 12, Md.; EDWARD STOLTZ, JR., Hubbard Lane, Wheeling, W. Va.

Here we go, catching up on much past news — about one year's worth! The questionnaires that about 100 of you answered last summer have finally filtered through the class bureaucracy (sic!) and will be presented in this and the next few reports. Your Secretary again thanks Herb Hansell for assisting in this month's write-up.

Edwin Bean reported from Buffalo that he was married to Miss Susan Roberts in May, 1952, and he is now an attorney practicing patent, trade-mark and copyright law in the firm of Bean, Brooks, Buckley and Bean (which one is you, Ed?). Ed got his law degree at Georgetown University in 1950. Jim Wilson is a patent engineer with Marchant Calculators in Oakland, Calif., working on patent aspects of digital computers. Concerning California, Jim says, as an old New Jerseyite, "San Francisco Bay area is the place to live in my estimation. Wonderful skiing in the Sierra Nevada, plan to catch lots of fish this summer." Win Hayward is also in sunny California, as an application engineer with Century Electric in San Francisco. Win has sparked the same company in St. Louis, Philadelphia, Grand Rapids, and now the West Coast, where he expects to remain. Via the Boston *Globe* we learn that Tim Wimett and family are now living in Los Alamos. Tom got his Ph.D. in physics at M.I.T. last year.

Several reports of Bob Spoerl's wedding in April of 1953 to the former Marilyn Berg of Jamestown, N.Y., have been received. Bob wrote that Ray Brown, Jim Craig, and Bill Jackson were among the ushers; and they spent a short honeymoon in Bermuda. He is selling for U. S. Rubber in northern New Jersey, and living in a newly purchased home in Short Hills, N.J. Bill Jackson also sent his first-hand report of that wedding, which was "Wonderful time!" Bill is eastern sales manager for Bonney Forge and Tool Works' welding fittings division. Fixing up a newly purchased home and publishing several articles in industry trade journals manage to keep him busy. John Maynard has returned from two years Navy duty in the Atlantic and Caribbean and is an electronic engineer for Doelcam Corporation in Newton, Mass. His vital statistics are a wife, Janet, and two daughters, Cary, six, and Becky, three. Also at Doelcam is Ken Mathews as chief electronic development engineer. Lieutenant Chuck Thompson, U.S.N.R., is a forecaster for the Navy's weather station in Norfolk, Va., with six months to go. Lou Wadel, who is with Chance Vought Aircraft in Dallas as a design engineer, became a registered professional engineer in the Lone Star State in 1953. Lou's first daughter, Nancy, was born just about a year ago. Dave and Grace Hoag now have a six-month-old daughter, Rebecca. A couple of year-old society clippings announce the marriage of Ted Church to Ann Mathewson. The lucky dogs spent their honeymoon skiing at Aspen.

Beverly Beane received her M.S. degree from M.I.T. and is now an aerodynamicist for the Douglas Aircraft Company in Santa Monica, Calif. Art Schiff

has a daughter Lynda Susan, born in April, 1953. He is on the superintendent's staff of the Industrial Rayon Corporation in Covington, Va. For miscellaneous activities he has joined the local Kiwanis Club. Don Burke has been promoted to manager of the sweater finishing division of Darlene Knitwear, Inc., in Manchester, N.H. He has a two-year-old son named Richard, and is spending his spare time "learning how to plant shrubs and grow grass!" Dan Cooper received his Ph.D. at M.I.T. in June, 1952, and is now a research physicist working on transmission problems for the Bell Telephone Laboratories in Murray Hill, N.J., and living in Morristown. His son, Jonathan, is three and a half years old, and he has a daughter, Ellen, nine months.

Bill Brace finished his Ph.D. at M.I.T. in Geology in June, 1953, and received a Fulbright fellowship to study geology in Austria for 1953-1954. Bob O'Donnell is a research engineer in Technical Service to Standard Oil Company's refinery in El Segundo, Calif. Sam Gusman brings us up to date on his activities: In June, 1947, he married the former Carolyn Strauss; he received his Ph.D. in chemistry from Brown University in 1950; he has a son, John Frank; now works for the Rohm and Haas Company in Philadelphia as a research chemist. John W. Taylor is a project engineer for the Electronics Division of Westinghouse in Baltimore. He has a daughter, Carol Leslie, born in March, 1953. John says he's "eagerly awaiting the 10th reunion and hoping it will be as enjoyable as the 5th." (A man for the reunion committee!)

Dave Moyer writes that, in addition to his work as a design engineer for Delco Products Division of General Motors, he is representing M.I.T. as president of the M.I.T. Club of the Miami Valley (Ohio) and as an M.I.T. educational councillor. He and Ann have two sons, Douglas, four, and Steven, two. The former author of these notes, Jim Craig, has left Raytheon Manufacturing Company and is now working on problems of a control nature for the Hotel Somerset in Boston and a series of other hotels around the country, in association with Rog Sonnabend. Rog is general manager of the same hotel operations, and reports the birth of his second daughter, Stephanie. Counselor Buckman finally got out of the Navy about a year ago and is now a salesman for Lionel D. Edie Company, an investment counselling and economic consulting firm in Pittsburgh. Stick is married, has two daughters, six and three, and, reminiscent of the Anchor Club of V-12 days, is associated with the Alleghany Alms House Association, which he doesn't identify.

Bill Cahill is operating his own business as a manufacturer's agent for metal finishing, polishing and plating supplies and equipment in Los Angeles. Bill and his wife, the former Mary Ann Burke of Detroit, have two sons, Kevin and Burke, two and a half, and one and a half, and a third offspring was expected at the time these notes were being written. Bob Taylor, who was recalled to Navy duty in 1951, was scheduled to be released sometime in 1953, but we have no further word of his present location. Bob now has

two boys, Bob, Jr., and James, three, and one. He wrote that while he was at the Norfolk Navy Yard, a "live-wire young Naval officer" had requested use of his office equipment, and turned out to be Ted Henning, who was then on an aircraft carrier in the Navy Yard. Bob says they had a pleasant, if short, time catching up on news.

Gunther Fonken provided a full report of his travels since 2-46: Merck and Company as a junior chemist, graduate work at University of Wisconsin for Ph.D. received in 1951, and the chemistry division of the Upjohn Company in Kalamazoo, Mich., since then. Married Anne Lucas of East Lansing, Mich., in 1951, and present activities include still trying to break 100 in golf and to catch more than seven fish a season. Bates Lea is now an antitrust legal expert for Standard Oil Company in Chicago, and was married last March to Marcia Wood of Green Bay, Wis. Al Hoffmeister, now back in civilian life after a two-year Navy recall, is an application engineer for Westinghouse Electric in Wheeling, W. Va. Al has one son. During his Navy tour, he hit every port worth hitting on the Mediterranean. Don Robison, who is an aerodynamics design engineer at Chance Vought Aircraft in Dallas, is studying for his master's degree at Southern Methodist University. He's got two boys, Peter, three, and Stephen, one. Antonio Nunes, our Brazilian representative, is now assistant director of the Polytechnic School, Catholic University of Rio de Janeiro, after three years as production manager of the Lever Brothers plant in Rio. He has four children, and in 1952 represented Brazil at the Pan American Union of Engineers at New Orleans.

Monroe and Richard Gliedman are continuing their parallel careers as orthodontists at the Columbia Presbyterian Medical Center in New York. Both graduated from the school of dental surgery at Columbia. Apparently the Navy sent Monroe to the Atlantic and Dick to the Pacific for a period of time. Bill Frazier writes a long and interesting report that we can summarize: He was released to inactive duty in February, 1953, and decided to stay in San Diego, where he is now working as a tool and equipment engineer for Solar Aircraft. He is working primarily in the fabrication of stainless steel. Bill has two girls, Betsy and Deborah, five and four, and says that he visited Frank Low and wife Lou in Oakland last year; according to Bill, "Frank has become a golf pro—these M.I.T. engineers!!" John Wandrisco is working for Latrobe Steel Company in Latrobe, Pa. as general manager of the special products division, responsible for manufacturing and sales. Sew Kennedy writes that he is still practicing law on Wall Street in New York (with Davies, Hardy, Schenck and Soons), is still married and still has no kids. Also reports that he went to Cliff Woods' wedding to Mary Louise McMullen in Wilmington, Del., June 6, 1953. Hillman Dickinson is company commander of a tank company, and has seen every European country from Finland to Italy. His stateside address is 408 Morris Street, Pittsburgh, Pa., and he reports the birth of a daughter, Cynthia. John Knauss

is now on active duty with the Navy as an oceanographer. He was working for his Ph.D. at the Scripps Institution in La Jolla, Calif., before recall and says that in all of his travels ("oceanographers mostly see ocean"), nothing is prettier than La Jolla. John was the distinguished founder of an organization known as the Committee for the Co-operation with Visitors from Outer Space, which ribbed the flying saucer addicts. More next month.—WILLIAM M. SIEBERT, *General Secretary*, 5 Martha's Point Road, Concord, Mass.

• 1947 •

This business of keeping tabs on and reporting the doings of some 1,500-odd (please note the hyphen) members of the Class has its little lessons. Learning from them is another thing, of course; but it does seem that despite my appeal for news from our scattered classmates, the best sources are right here in my own back yard. My job with Allied Research Associates, Inc., takes me all over the country, and with fairly good frequency, too; but apparently even the most itinerant of us are destined to collide in Boston. Just the other day, for instance, I was returning to the office from lunch, when I bumped into Phil Solomon. Phil, I think, takes the record for peripatetics. He is a flight engineer with Trans World Airlines, and since last summer has been flying their international routes out of New York, after more than two years on the trans-continental routes. Phil's wife and two boys must be inured to his comings and goings by now as he indicated that he intended carrying right on; although he was thinking of resettling in Los Angeles, and returning to the trans-continental schedule.

One evening, some weeks ago, I had arranged to meet Rip Todd for dinner. I don't really know what Class Rip affiliates himself with, because although he entered Tech with us, a couple of years with the Army in Italy, a return to the Institute, followed by a year at the University of Grenoble in France before he once again came back to Tech, gives him a pretty wide choice. Anyway, he's here in Boston as a junior account executive with the advertising firm of Sutherland-Abbott, and we can claim him for our own by prior right. To return to our dinner engagement, however, we had decided to eat at Simeone's, a fine little restaurant specializing in excellent Italian cuisine and low prices, just off Central Square. The combination of these two admirable qualities makes the place inordinately popular (particularly with the present generation of Tech students); and it looked as though we were in for a long wait for a table. But as luck would have it, Pete Portmann was there, dining alone in an ample booth, and he beckoned us to join him. Pete is another footsore traveler, and I think he has a good deal more cause for complaint than any of us. He has been with Project Lincoln at Tech for more than a year now; and he is still looking for a house so that he can bring Bobbye and their two boys, Bruce and Brian, up from Washington. This situation makes Pete a virtual commuter between Boston and

Washington; and this, in addition to his travels, as required by the job.

Speaking of bumping into people, the Faculty Club bar is ideal for this purpose. I attended the New Year's Eve ball at the Club; and after the dancing had ended, we all drifted into the bar (drift is a well-chosen euphemism—rush is more accurate) for that last little nip. There, after some merry carousal, I discovered I was singing in harmony with Sam Mason. Sam is an assistant professor in the Electrical Engineering Department, and also serves as faculty resident in Baker House. He is actually a Rutgers graduate, but took his S.M. with '47. On another occasion I was meeting a friend at the Club for dinner, when I met Arnold Judson and Jim Phillips who were there for the monthly meeting of the Alumni Council. Arnold is still with Polaroid, and Jim with the brokerage firm of Vance Sanders and Company. Certain of our fellows seem to have a hearty reticence about having their names mentioned in this column. My natural conceit prevents my thinking that this desire to remain unmentioned is any reflection on my writing, so I must put it down to unwarranted shyness, and claim reportorial license in bringing forth the facts. Chuck Bauer is one of these retiring people, although why he should be, I can't say. After six very successful years at the National Bureau of Standards, Chuck has returned to Graduate School at the Institute for an S.M. in Chemical Engineering. His studies keep him busy, so I don't see him very often. Norm Holland and I spent a very pleasant evening together some weeks ago. Norm is a tutor in Lowell House at Harvard, and expects to obtain his Ph.D. in English a year from June. Norm is also engaged to be married—sometime this summer, I think he said. I have learned in a roundabout way that Don Van-Greenby, still a bachelor, is working in the construction business in Lowell. If Don cares to amplify this meager bit of information, he can write me a letter which I promise to print in full.

The Midwinter Meeting of the Alumni Association, held at Walker Memorial as usual, was interesting and entertaining as always. I am a little chagrined to report, however, that '47 was sparingly represented. Only Harl Aldrich, Jim Phillips, Jack Rizika, and I were there. Jim we've mentioned before; Harl is training the future generation of civil engineers as an assistant professor, and is expecting his fifth child shortly; and Jack is with Jackson and Moreland.

A couple of letters have been received over the past few months. Bryant Williams writes from P.O. Box 527, Greenwich, Conn.: "Nothing much new since my last letter in 1951; however, to keep the records up to date, my present status is as follows: I am a project engineer with the American Machine and Foundry Company, assigned to the Greenwich Engineering Laboratory. At the present time I am engaged in work on a Navy contract involving the development of a variable depth sonar system. I'm still a bachelor, but hope that my next news item will be to indicate a change in this classification. Keep up the good work with the news in The Review." And from Palo Alto, Calif.,

Bob Warner writes: "We've been having a really fine time out here. We still have to blink a bit when we play tennis in the middle of winter. Over the Xmas vacation we hankered for some snow; so we whipped up to Yosemite (five hours), and took in some skiing. Am thoroughly enjoying the work out here at the Ames Laboratory. I'm doing flutter analyses on a flock of straight cantilever wings, looking for trends. This sort of research suits my taste to a T. Jen says 'hi,' so do I." Carl Haushalter writes from 58 Tanner Street, Lexington Park, Md.: "Upon release from the Navy in December, 1952, I resumed my position with the Electronics Test Division at Patuxent River, Md. — the Naval Air Test Center. I am married, and have a six-month-old son." Rae LaPier has been transferred to the Kansas City plant of the Colgate-Palmolive Peet Company as maintenance superintendent. Rae's address is 4458 Broadway, Kansas City, Mo. Bob Rediker, living at 114 Pierce Road, Watertown, is now working on transistor devices at the Lincoln Laboratory. George Sprague has "left West Palm Beach in sunny Florida, and returned to aircraft structural work at the Glenn L. Martin Company." George lives at 20 Dunvale Road, Towson 4, Md. Robin Stevenson, an Air Force Captain, has been transferred from chief project engineer, B-36 Project, Headquarters Air Material Command to become assistant to the Air Force Plant Representative at the Fort Worth Division of Convair. Bob's address is 1623 Laura Road, Ft. Worth 14, Texas.

Earl Anderson is a civil and sanitary engineer with the University of Massachusetts. He recently filed nomination papers for the office of school committee-man in Amherst. Bob Eppe spoke at the December meeting of the Connecticut Valley Section of the American Chemical Society in Springfield on "Applications of Radioactivity in Research and Industry." Bob is with Tracerlab. An announcement received in the mail tells us that Dick Turner married Doris May Corless of Windsor, Ont. Gabe and Ann Isakson have their second son, Peter, born December 17 last; and Ben Ranan's daughter, Judith Dale, was born on January 10. — CLAUDE W. BRENNER, *General Secretary*, 1470 Beacon Street, Brookline 46, Mass.

• 1948 •

Approximately 1,465 of you must be mighty busy these days, for we have heard nary a thing about what has been making your lives interesting. This is a prelude to the admission that news is indeed scarce this month. We did receive notice of one wedding, however. Miss Lederle Stearns of Longmeadow was wed to Charles Tenney, Jr., on January 30. Our good wishes to them both. We were also informed that Walter H. Hatch, 9 Waverly Place, Cranford, has been appointed a group head in the Esso Engineering Department, of the Standard Oil Company. In his new capacity, Walter will supervise process planning work in the Process Engineering and Economics Division.

In the Atlanta airport at 2:00 A.M., one dismal Saturday morning late in January,

your Secretary, bleary-eyed, ran into one Steve Rozendaal, also bleary-eyed, on his way back to Fort McClellan. Steve, officially a member of '49 by virtue of a late thesis, but actually a '48 man at heart, promised to help out his struggling Secretary by sending a letter to you, via these notes. He was then given back the use of his right arm and we boarded our respective planes. Steve did write, and we hope that his first paragraph will hit home. "As promised, I am coming through with my long-delayed letter to the Class of '48. Believe me that, if I have failed to write any sooner, it is because I found advertising myself distasteful: I do realize, however, the difficulties under which you are laboring as Class Secretary — so here's my little bit.

"Since graduating from Tech, I spent approximately 10 months traveling throughout Europe with Earl Eames and Lloyd Haynes, Class of '49. This trip took us through Scandinavia, including Finland, to Poland, Czechoslovakia, Yugoslavia, and most of Central and Western Europe. In France, I stopped off and worked for almost a year for my grandfather, who owned a small cotton waste plant. While I enjoyed the apparent French 'joie de vivre,' I was thoroughly disgusted with the French social and economic structure and was pleased to return to the less exotic but steadier life of the U.S.A. After finishing the Practice School of Chemical Engineering, I worked for approximately two years with Consultants, Inc., in Boston — the firm started by Eames and Haynes. I handled mostly training programs for teams of foreign engineers who came to study in the U.S.A. under the Marshall Plan. At present, I am an ensign in the U.S. Naval Reserve and stationed with the Naval Unit at the school of the Army Chemical Corps in Fort McClellan, Ala. My duties here consist principally of teaching courses in atomic, biological and chemical warfare to Naval officers. This work keeps me in good touch with the 'trade' and gives me an excellent opportunity to meet many Tech men in the Army Chemical Corps. Much as I enjoy this work, I still have hopes of 'shipping out' to sea before I get my discharge." Seeking information that will lead to more efficient utilization of fuels, Bill Levedahl has been conducting an extensive investigation of auto-ignition at the National Bureau of Standards' engine fuels laboratory. The data thus obtained provide a basis for increased understanding of the mechanism of engine knock and carbon formation in cylinders. John Jones writes that he is now working for the Aluminum Company of America; and that he has been transferred from Detroit to their Buffalo, N.Y. plant as works engineer.

After a lapse of several years, with all of us going our diverse ways, it was a most pleasant surprise to re-establish contact with John Weil and hear news of him and Jules Levin — two of your Secretary's closest friends at Tech. Quotes are from John's letter: "Jules and I quit working at Brookhaven National Laboratory in the fall of 1949 and entered Cornell together. The following spring Joan (Landis) and I were married and returned to Cornell for Summer School. Jules went to Brook-

haven for the summer and married a girl he met there that fall. I went down to Brookhaven to help start up the nuclear reactor at the end of the summer and then everybody returned to Cornell to continue work on the degrees. Jules left the following spring to do his thesis research at Brookhaven. I continued at Cornell and, except for a few weeks' drive West in the summer of 1951, worked through February, 1953, at Cornell, at which time I completed my Ph.D. Took a couple of weeks rest, and then Joan and I came to Schenectady where I work for General Electric and Joan teaches first grade. Incidentally, she taught two and a half years in Ithaca. I am one of a four-man group attached to the director of the technical department of the Knolls Atomic Power Laboratory, charged with the co-ordination of the laboratory's efforts and with the advanced planning for the laboratory. I fit in the latter effort — compute, design, and evaluate designs of nuclear power plants for the generation of commercial electric power. I expect to run across Uncle Dave sometime since he is a factotum of sorts at DuPont, working on the Savannah River Plant for the A.E.C. and doing fine work on the instrumentation and setup of the control facilities."

If any of you men of '48 are visiting Chicago, why not give your Secretary a phone call, and we'll chat a bit: Office phone number is State 2-2868. — WILLIAM R. ZIMMERMAN, *General Secretary*, Care of A. T. Kearney and Company, 135 South LaSalle Street, Chicago 3, Ill. RICHARD H. HARRIS, *Assistant Secretary*, 26 South Street, Grafton, Mass.

• 1949 •

One of the things we miss in California are the spring seasons and the complete change they bring in the weather and people's attitude such as we enjoyed while in Boston. Remember them? Well, you can sample another New England spring, and the best environment — Chatham Crest, in Chatham, on Cape Cod (tentative choice) — at the Class's fifth reunion. For lodging and meals from Saturday noon, June 12, through Sunday afternoon (topped off by a clambake), June 13, the cost will be approximately \$18.00. Watch for more details on the reunion in Tom Toohy's class letter.

We received a card from Captain George Haviland, who is living in Hatboro, Pa., and writes: "I have recently been reassigned from Wright Air Development Center to the Naval Air Development Center, Johnsville, Pa. As a liaison officer, I represent the Air Force at Johnsville in research and development matters." Also a card brings us up to date with Stoney Harford, who was married in March '51, and became a father of a little girl, named Andrea Jay, in October, '52. Stoney has the New York, New Jersey, and Connecticut sales area for Niagara Blower and occasionally has lunch with Dick O'Donald, Bill Beaton, and Bill Malley. See you all at the reunion, June 12 and 13.

Many pardons, Denny Kalette. I received your note and filed it away hoping I would have some news to put with it for a column the following month. Denny

was married to Sally Nielson of Lexington the day after graduation (which was five years ago for those who refuse to count). After a tour of the States, a nine-month job in New York, and eight months in Lima, Peru, the Kalettes returned to the States in May, '51. In July '52, a daughter, Lisa, arrived, and in February '53 Denny joined Bendix Aviation as an administrative engineer and is located in Teterboro, N.J. Andy Viret is also working for Bendix at Teterboro. An Xmas card from Bill Mitchell brought the season's greetings and news that Mitch had parted company with Uncle Sam after 20 months of sightseeing in Europe. Mitch returned to Reliance Electric and helped open their Baltimore Office. While in Baltimore he shared an apartment with Bill Cook. Recently Mitch was transferred to Toledo and promoted to manager of the Toledo Branch Sales Office. In his travels he ran into Shef Lang, who is stationed at Fort Eustis, Va.

George Fedde'50, a Senior Engineer with Philco Company in Philadelphia, received one of the Company's annual Achievement Awards. George was recommended for the award for his contributions to the solution of a difficult circuit and physical problem encountered in the development of color television receivers. The award consists of shares of the Corporation's stock. Charlie Kalfadelis is now with the Whiting Research Laboratories of Standard Oil. George Dumas'51 was awarded the degree of master of automotive Engineering by the Chrysler Institute of Engineering. Randall Cleworth returned to the States from Korea where he was ordnance supply officer in the 44th Ordnance Depot Company, part of the Eighth Army. Don Cleveland, a First Lieutenant in Transportation, is stationed in Washington, D.C. Peter Fagg writes he is "presently enjoying working for the Department of Defense while completing his work on an M.S. in astronomy at Georgetown."

In the collegiate field Fred Landis was appointed assistant professor of mechanical engineering at New York University. Shepard Bartnoff was recently named associate professor in the Physics Department at Tufts College. Dan Streissguth was appointed assistant professor of architecture at Washington University. Dan had been practicing architecture for the past year with his own firm in Seattle. Emil Slowinski is on a year's leave of absence from the University of Connecticut and has joined the research staff of Monsanto's Plastic Division. Gordon Raisbeck gave a talk entitled "Transistors at Work" before the Syracuse Section of the A.I.E.E. Bob Newman discussed "Designing for Good Hearing in Auditoriums" before the New England Radio Engineering Meeting. Ira Dyer coauthored a paper entitled "Short-Range Propagation in the Atmosphere," and a second entitled "Wave Theory of Vortex Scattering."

Don't forget, the man said, a pat on the back is only effective if applied young enough, often enough, and low enough. So look up a fellow classmate and pat him on the back for the coming Fifth Reunion — June 12 and June 13. — CHARLES W. HOLZWARTH, *General Secretary*, 1426 Grace Avenue, San Jose, Calif.

Marriages: Only two to report this month. On December 26 Jean Gaston, a Quincy girl, and Dick Daly, a Sanford, Maine, Course VI boy, exchanged vows. The Dalys are now in Columbus, Miss., where Dick is serving in the Air Force. Dave Gilchrist of Melrose, Mass., was recently married to Pat Lowe of Beverly, Mass. Dave is also wearing the sky-blue uniform and is stationed at Fairchild, Wash.

Press Releases: From the "Fleet Home Town News Center" comes word of the following Navy men: Bo Newcomer and Bob Brown, Ensigns, have qualified as carrier pilots and are presently at the U.S. Naval Auxiliary Air Station, Corry Field, learning the ropes about instrument flying. Following this they will report to Corpus Christi, Texas, for training in combat type aircraft. Already proficient in combat type aircraft is lieutenant commander Bob Hansen who recently left the aircraft carrier *U.S.S. Yorktown* for duty at the U.S. Naval Air Station, Coronado, Calif.

And from the "Army Home Town News Center" comes news of Amos Dixon, formerly M.I.T.'s Bob Feller, now P.F.C. Dixon. Amos is now an instrument repairman serving with an Ordnance Rebuild Detachment in Mainz, Germany.

Here are belated Christmas greetings from: Werner Kahn, Rio De Janeiro, Brazil; Sarkis Zartarian, Jr., a Lieutenant with a Quartermaster Base Depot in Korea; and Jack Copenhefer, another Lieutenant in Korea, who writes as follows: "My job is very interesting. I'm bulk operations officer of the P.O.L. (petroleum, oils, and lubricants) Division in Pusan. This means that I control all loading and unloading of tankers in Pusan Harbor; all tank trucks and tank cars (R.R.) leaving Pusan. I also have three tank farms under me with a total capacity of about 250,000 barrels. Dave Weber is in stock control of subsistence. Gerry Ellis is at Inchon working with a Q.M. Service Company as a platoon leader. Sarkis Zartarian is traveling with the U.N. Neutral Nations Police team. George Zavalakes is north of Seoul with a Q.M. Petroleum Supply Company. Arnie Kramer is with a Graves Registration Company on the 28th parallel."

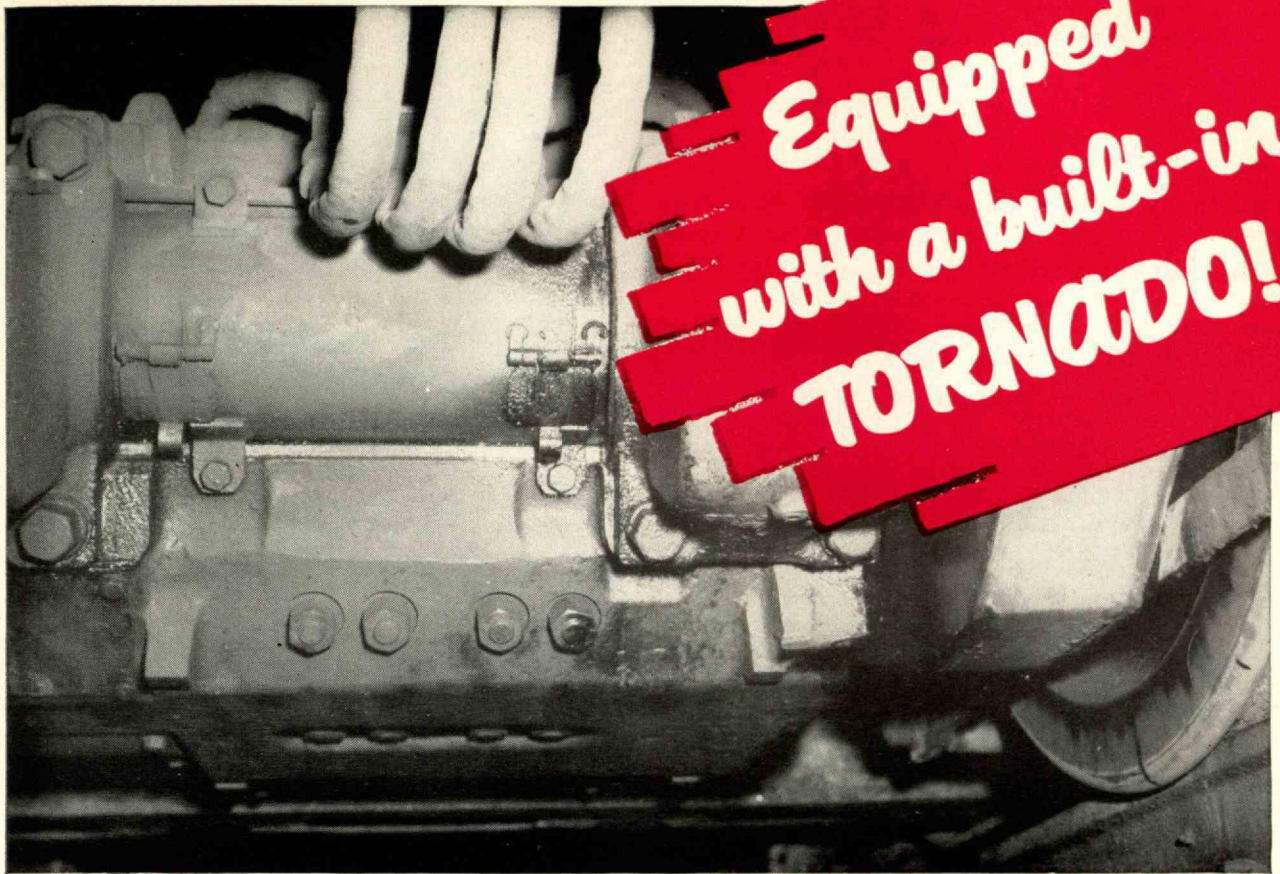
Here's the Latest (a new section covering information on the Alumni Association questionnaire cards): Bob Brodsky: Now in Mt. Rainier, Md., married Evie Katz on September 14, 1952, attended Oak Ridge School of Reactor Technology from September 1952 to September 1953, is now working for the Nuclear Power Division of the Navy Bureau of Ships. Jim Cook: Living at present in Thomaston, Maine, is currently foreman of inspection group in the tungsten filament coil department in the Waldboro, Maine, plant of the Sylvania Electric Corporation. Herb Glantz: Living in Wellesley, Mass., recently celebrated his second wedding anniversary with wife (Nina Koldin), is a research assistant and graduate student with the Institute's Mathematics Department.

Charles Peattie: Now living in Houston, Texas, was an associate in medicine at the

Harvard Medical School from June, 1952, to June, 1953, and is at present working as a chemist in exploration and production for the Shell Development Company. Rudy Preisendorfer: Now in San Diego, Calif., is with the Visibility Laboratory at the Scripps Institute of Ocean on a Graduate Research Fellowship, and is working toward a Ph. D. in mathematics. Garwood Rodgers: Living in Princeton, N.J., is working in the color TV section, receivers, at the David Sarnoff Research Center, as a trainee. Art Schein: Now a resident of Chestnut Hill, Mass., recently released from active duty with the Air Force, is now working as an architect with the firm of Sumner Schein, Architect and Engineer, in Boston. Bill Yu: Now living in New York City, is presently serving as treasurer of the Yutivo Sons N. Y. Inc., an export-import firm trading with the Philippine Islands. That's it for the month. — STANLEY I. BUCHIN, *General Secretary*, 150 Tryon Avenue, Englewood, N.J.

• 1953 •

Suppose I begin where last month's report ended at Fort Lewis, Wash. The personnel at Lewis are to be commended for their courteous, efficient service in processing officers and enlisted men. I spent one week end there, and then left on a transport, built by the Kaiser Shipyards, capable of carrying some 3,000 enlisted men and officers. The voyage furnished ample opportunity for reading, sleeping and "shuffling the paste boards." There were movies every night, and the chaplain's office contained a fairly well-stocked library. I spent much time enlarging my meager knowledge of psychology and the philosophy of religion. About 18 days after leaving Seattle, we docked at Sasebo, Japan. Sasebo is on the western coast of the island of Kyushu — the southernmost island of Japan. Kyushu is composed primarily of volcanic hills with towns and villages built in the valleys with a population of about 9,068 people. Almost every square inch of fertile land is terraced with gardens. The honesty, cordiality and consideration of the Japanese people is a great credit to them. From Sasebo we left for Korea to join the second division and my engineer company. The desolate terrain was disconsolating; however, the battalion division and company reception cheered me up a bit — replacements are welcome in Korea. The Army has made these front lines as pleasant as possible — despite the candlelight as I write. To maintain stability in this area, the presence of U.S. troops is necessary. There is much to be learned in the fields of administration and organization. As I travel roads built by my fellow engineers, I see British, Dutch, Swedish, Turkish, Greek, and R.O.K. flags. Recalling the U.S. and U.N. flags side by side, I realize that the world-peace objective of the United Nations like the Division which I now serve, is "Second to none." How about a little mail from you people stateside? — VINSON S. BRONSON, JR., *General Secretary*, 04003242, Company B, 2d Engineering Battalion, 2d Infantry Division, A.P.O. 248, Care of Postmaster, San Francisco, Calif.



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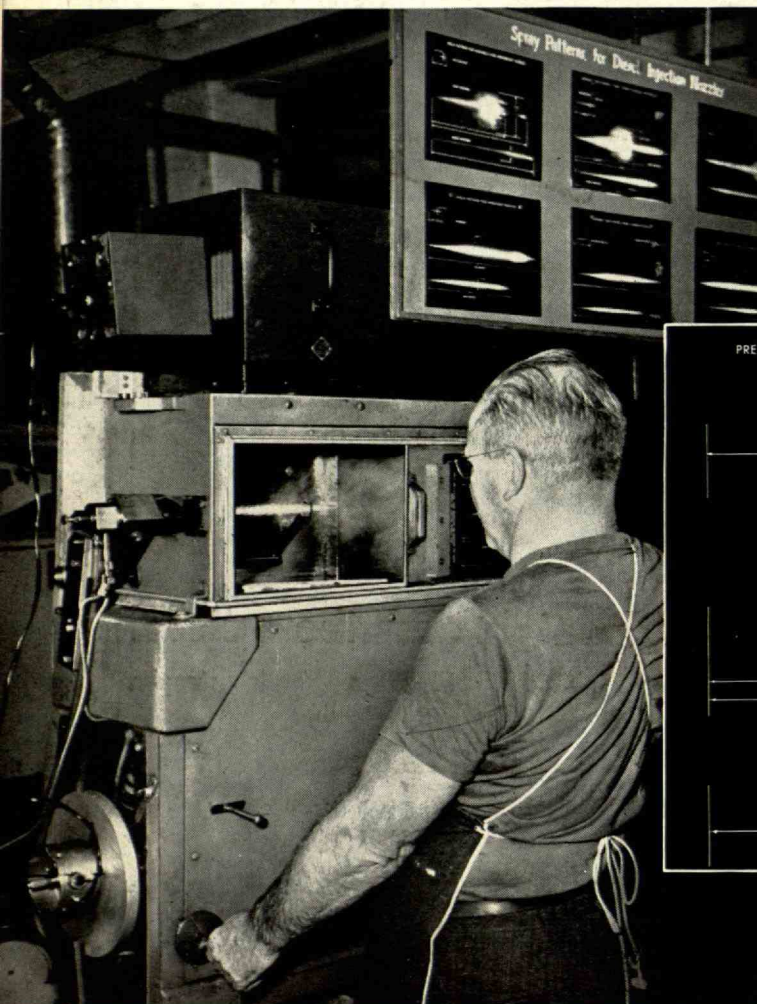
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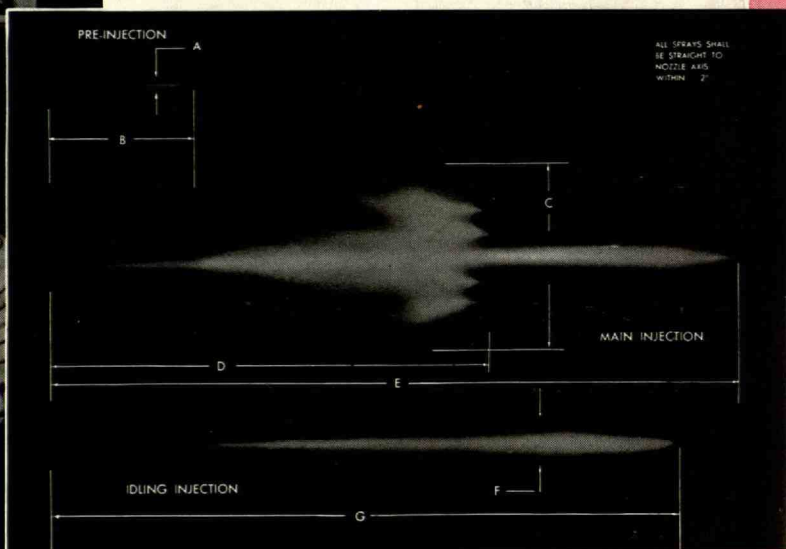
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